V7100 Series

TwinView™ GPU Graphics Card

USER'S MANUAL

Hardware & Video Drivers

V7100 / Pure

V7100 / T

V7100 / DVI

V7100 / 2V1D

V7100 Magic / T

V7100 Magic / Pure

V7100 / Deluxe Combo

V7100 Pro / T

V7100 Pro / Pure

PCI-V7100 Pro / T

PCI-V7100 Pure

USER'S NOTICE

No part of this manual, including the products and software described in it, may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form or by any means, except documentation kept by the purchaser for backup purposes, without the express written permission of ASUSTeK COMPUTER INC. ("ASUS").

ASUS PROVIDES THIS MANUAL "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL ASUS, ITS DIRECTORS, OFFICERS, EMPLOYEES OR AGENTS BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES (INCLUDING DAMAGES FOR LOSS OF PROFITS, LOSS OF BUSINESS, LOSS OF USE OR DATA, INTERRUPTION OF BUSINESS AND THE LIKE), EVEN IF ASUS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES ARISING FROM ANY DEFECT OR ERROR IN THIS MANUAL OR PRODUCT.

Product warranty or service will not be extended if: (1) the product is repaired, modified or altered, unless such repair, modification of alteration is authorized in writing by ASUS; or (2) the serial number of the product is defaced or missing.

Products and corporate names appearing in this manual may or may not be registered trademarks or copyrights of their respective companies, and are used only for identification or explanation and to the owners' benefit, without intent to infringe.

• NVIDIA, GeForce2 MX, and combinations thereof are trademarks of NVIDIA Corporation.
• Windows, MS-DOS, and DirectX are registered trademarks of Microsoft Corporation.
• Adobe and Acrobat are registered trademarks of Adobe Systems Incorporated.

The product name and revision number are both printed on the product itself. Manual revisions are released for each product design represented by the digit before and after the period of the manual revision number. Manual updates are represented by the third digit in the manual revision number.

For previous or updated manuals, BIOS, drivers, or product release information, contact ASUS at http://www.asus.com.tw or through any of the means indicated on the following page.

SPECIFICATIONS AND INFORMATION CONTAINED IN THIS MANUAL ARE FURNISHED FOR INFORMATIONAL USE ONLY, AND ARE SUBJECT TO CHANGE AT ANY TIME WITHOUT NOTICE, AND SHOULD NOT BE CONSTRUED AS A COMMITMENT BY ASUS. ASUS ASSUMES NO RESPONSIBILITY OR LIABILITY FOR ANY ERRORS OR INACCURACIES THAT MAY APPEAR IN THIS MANUAL, INCLUDING THE PRODUCTS AND SOFTWARE DESCRIBED IN IT.

Copyright © 2001 ASUSTeK COMPUTER INC. All Rights Reserved.

Product Name:	**ASUS V7100 Series**
Manual Revision:	**1.03 E833**
Release Date:	**August 2001**

ASUS CONTACT INFORMATION

ASUSTeK COMPUTER INC. (Asia-Pacific)

Marketing

Address: 150 Li-Te Road, Peitou, Taipei, Taiwan 112
Telephone: +886-2-2894-3447
Fax: +886-2-2894-3449
Email: info@asus.com.tw

Technical Support

MB/Others (Tel): +886-2-2890-7121 (English)
Notebook (Tel): +886-2-2890-7122 (English)
Desktop/Server (Tel): +886-2-2890-7123 (English)
Fax: +886-2-2893-7775
Email: tsd@asus.com.tw
WWW: www.asus.com.tw
FTP: ftp.asus.com.tw/pub/ASUS

ASUS COMPUTER INTERNATIONAL (America)

Marketing

Address: 6737 Mowry Avenue, Mowry Business Center, Building 2
Newark, CA 94560, USA
Fax: +1-510-608-4555
Email: tmd1@asus.com

Technical Support

Fax: +1-510-608-4555
Email: tsd@asus.com
WWW: www.asus.com
FTP: ftp.asus.com/Pub/ASUS

ASUS COMPUTER GmbH (Europe)

Marketing

Address: Harkortstr. 25, 40880 Ratingen, BRD, Germany
Fax: +49-2102-442066
Email: sales@asuscom.de (for marketing requests only)

Technical Support

Hotline: MB/Others: +49-2102-9599-0 Notebook: +49-2102-9599-10
Fax: +49-2102-9599-11
Support (Email): www.asuscom.de/de/support (for online support)
WWW: www.asuscom.de
FTP: ftp.asuscom.de/pub/ASUSCOM

CONTENTS

I. Introduction 7

Highlights 7
Available Models 7
Features 8

2. Hardware Setup 9

ASUS V7100 Pro / T Layout 9
ASUS V7100 Pro / Pure Layout 10
ASUS V7100 / Deluxe Combo Layout 11
ASUS V7100 Magic / T Layout 12
ASUS V7100 Magic / Pure Layout 13
ASUS V7100 / 2V1D Layout 14
ASUS V7100 / DVI Layout 15
ASUS V7100 / T Layout 16
ASUS AGP-V7100 / T Layout 16
ASUS V7100 / Pure Layout 17
ASUS PCI-V7100 Pro / T Layout 18
ASUS PCI-V7100 / Pure Layout 19
ASUS VR-100 Optional Upgrade Kit 20
Installation Procedures 21
New Systems 21
Systems with Existing VGA Card 21

3. Software Setup 22

Operating System Requirements 22
Windows 98 22
Display Driver Installation 23
Windows 98 23
Windows 2000 25
Windows NT 4.0 28
Drivers 29
Install Display Driver 29
Install DirectX 30
Install GART Driver 31
Install WDM Capture Driver 33
Install Video for Windows Capture Driver 34
Install ASUS TWAIN Driver 35
Uninstall Display Driver 36
Utilities 38
Install ASUS Tweak Utility 38
Install SmartDoctor 39
Install VideoSecurity 40
Install ASUS Live Utility 41
Install ASUS Digital VCR 42

CONTENTS

4. Software Reference 43
ASUS Control Panel 43
Refresh Rate 43
More Resolution 44
Information 44
Color 45
Advanced 47
Windows Display Properties 55
Device Settings 55
Color Correction 59
TwinView 60
GeForce2 MX 64
Desktop Display Manager 71
Using the ASUS Utilities 75
Tweak Utility 75
VideoSecurity 77
Live Video 81
SmartDoctor 90
Digital VCR 93
Using the Other ASUS Utilities 107
TWAIN Interface 107
VR PictureViewer 109
StereoTV 111
5. Resolution Table 113
Maximum Refresh Rate 113
6. Troubleshooting 114
Description 114
Recommended Action 114
Index 117

FCC & DOC COMPLIANCE

Federal Communications Commission Statement

This device complies with FCC Rules Part 15. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WARNING! The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Canadian Department of Communications Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Macrovision Corporation Product Notice

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only *unless otherwise authorized by Macrovision Corporation*. Reverse engineering or disassemby is prohibited.

I. Introduction

Thank you for purchasing an ASUS AGP-V7100 TwinView™ GPU Graphics Card. With this purchase, you join a legion of mainstream graphics enthusiasts.

Powered by the NVIDIA™ GeForce2 MX™ graphics processing unit (GPU), the ASUS AGP-V7100 delivers not only breakthrough leading-edge graphics performance but also ergonomically pleasing image fidelity regardless of the CPU (central processing unit) your computer system is using.

With the ASUS AGP-V7100, you will not only see but also experience stunning, dynamic, realistic 3D worlds and characters.

Highlights

• **Powered by the TwinView™ Graphics Processing Unit (GPU)**	NVIDIA™ GeForce2 MX™
• **Built-in high-speed video memory with up to 2.7GB/sec bandwidth**	Provides more resolutions and color depths
• **TwinView™ true dual-display support (TV-out/DVI models only)**	Brings more productivity
• **Dual-texture pixel-fill capacities with two new hypertexel pipelines**	Sets a new milestone for realism
• **700 Mtexel fill rate, 20 Mtriangles/ sec through T&L/Setting**	Performs up to 1.5x improvement over GeForce™
• **Optimized for DirectX® 7 and OpenGL® Features**	Ensures broad application support

Available Models

V7100 / Pro / T / 64M or 32M

• 64/32MB Frame Buffer + VGA + TV-Out

V7100 / Pro / 64M or 32M

• 64/32MB Frame Buffer + VGA

V7100 / Deluxe Combo

• 32MB Frame Buffer + VGA + TV Tuner Module + TV-Out + AV Adapter

+ 3D Glasses (ASUS VR-100G Bundled Free)

V7100 Magic / T

• 32MB Frame Buffer + VGA + TV-Out

V7100 Magic

• 32MB Frame Buffer + VGA

V7100 / 2V1D

• 32MB Frame Buffer + VGA1 + VGA2 + DVI

V7100 / DVI / 32M or 16M

• 32/16MB Frame Buffer + VGA + DVI

V7100 / T / 32M or 16M

• 32/16MB Frame Buffer + VGA + TV-Out

V7100 / Pure / 32M or 16M

• 32/16MB Frame Buffer + VGA

PCI-V7100 / T / 32M

• 32MB Frame Buffer + VGA + TV-Out

PCI-V7100 / Pure / 32M

• 32MB Frame Buffer + VGA

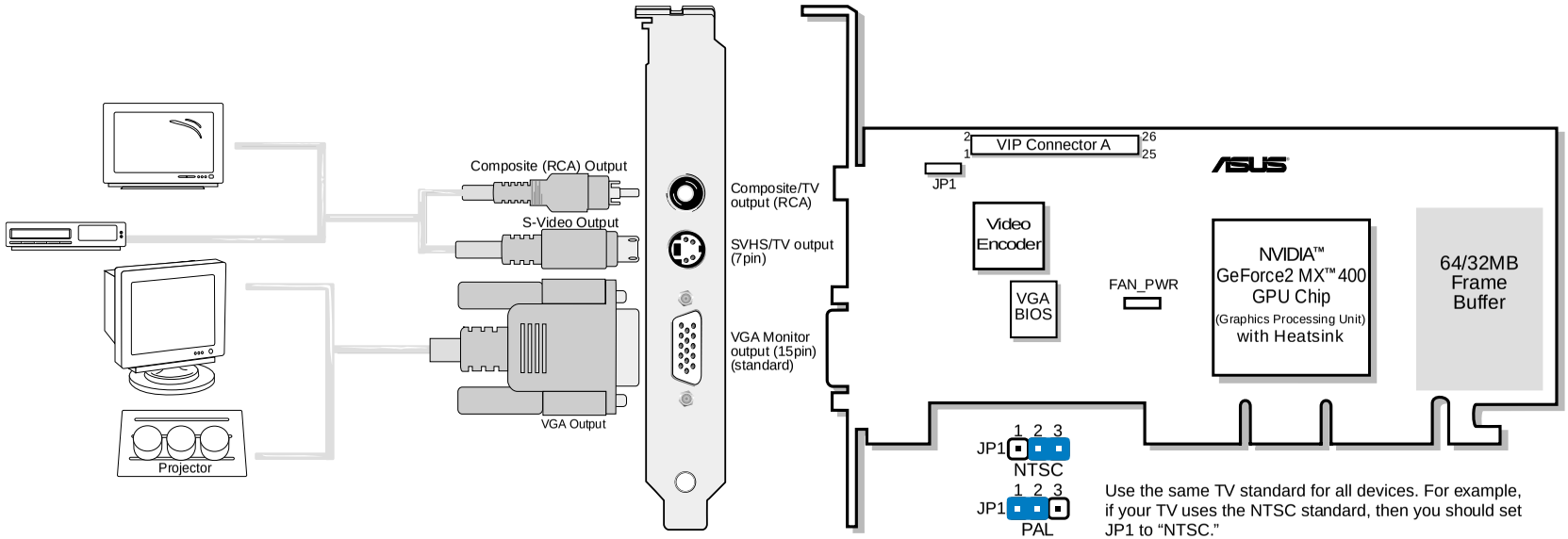
1. Introduction

Features

- AGP 4X/2X with Fast Writes and Execute Mode
- Two new Hypertexel pipelines process two texture per pixel, in true color, at full speed up to 700 million fill rate
- Built-in 32/16MB high speed video memory with up to 2.7GB/sec bandwidth
- Four texture mapped, filtered, lit pixels per clock cycle
- Second generation Transform and Lighting (T&L) Engine
- Up to 20 million triangles per second at peak rates
- Optimized for Direct3D acceleration with complete support for DirectX 7 features, such as multi-texturing, bump mapping, light maps, reflection maps, full scene anti-aliasing, trilinear and 8-tap anisotropic filtering (better than trilinear mipmapping)
- Fully 1.2 compliant OpenGL support
- 32-bit colors, Z/stencil buffer
- Multi-buffering (double, triple, quad buffering) for smooth animation and video playback
- TwinView™ Architecture (for models with TV-out/DVI models only) with simultaneous and independent dual-display control and dual-video output
- Multiple video windows with hardware color space conversion and filtering (YUV 4:2:2 and 4:2:0)
- Integrated 350MHz RAMDAC supporting from 640x480 up to 2048x1536 in true color
- BRDF (Bidirectional Reflectance Distribution Function) support
- Video acceleration for Direct Show and MPEG-1, MPEG-2, and Indeo

ASUS V7100 Pro / T Layout

64/32MB Frame Buffer



Item Checklist

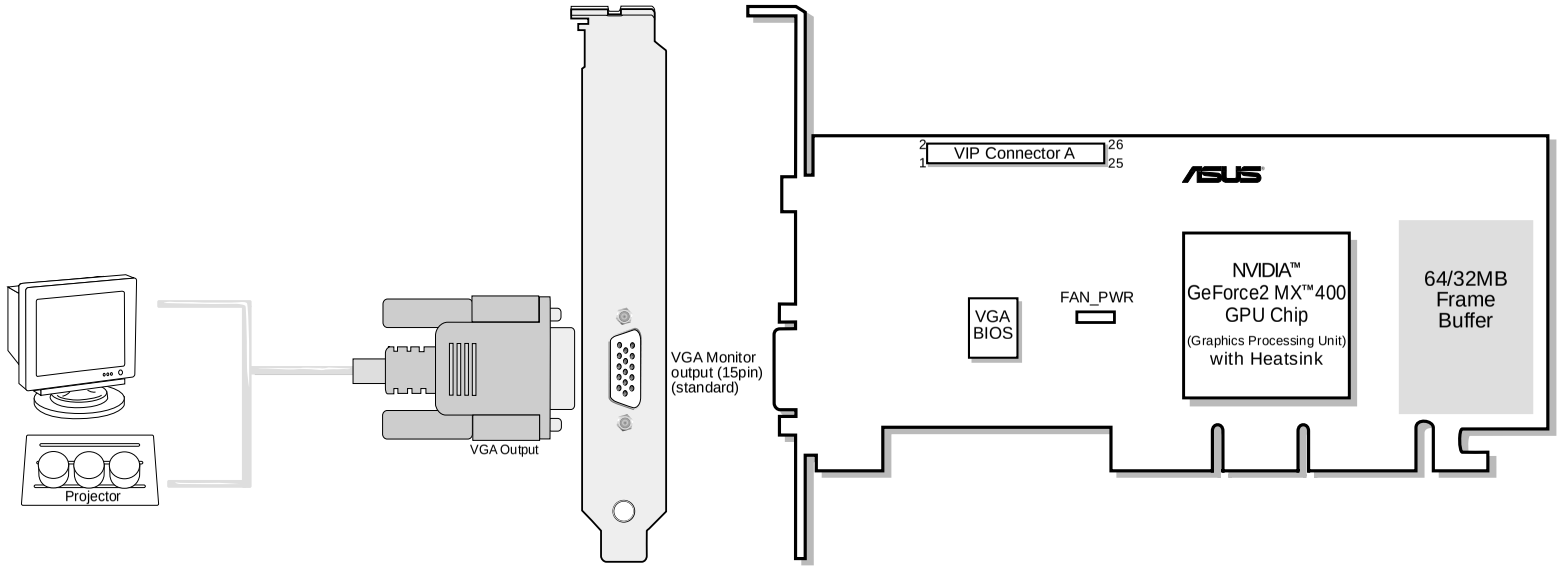
- ☑ ASUS V7100 Pro / T Graphics Card (PAL or NTSC)
- ☑ This User's Manual
- ☑ ASUS V7100 Series Driver & Utility CD Disc

Notes

- Use the same TV standard for all devices.

ASUS V7100 Pro / Pure Layout

64/32MB Frame Buffer

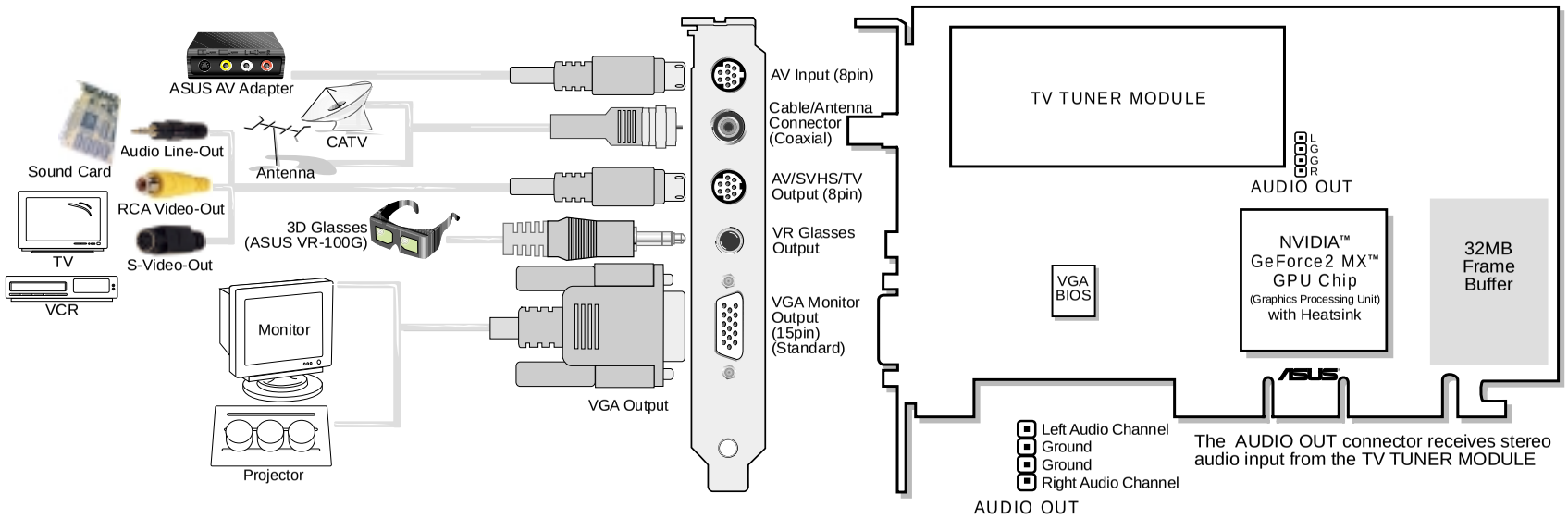


Item Checklist

- ☑ ASUS V7100 Pro / Pure Graphics Card
- ☑ This User's Manual
- ☑ ASUS V7100 Series Driver & Utility CD Disc

ASUS V7100 / Deluxe Combo Layout

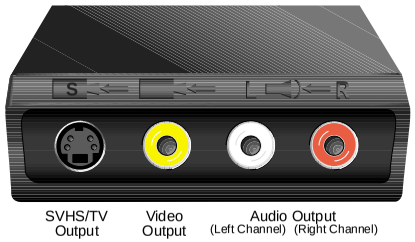
32MB Frame Buffer



Item Checklist

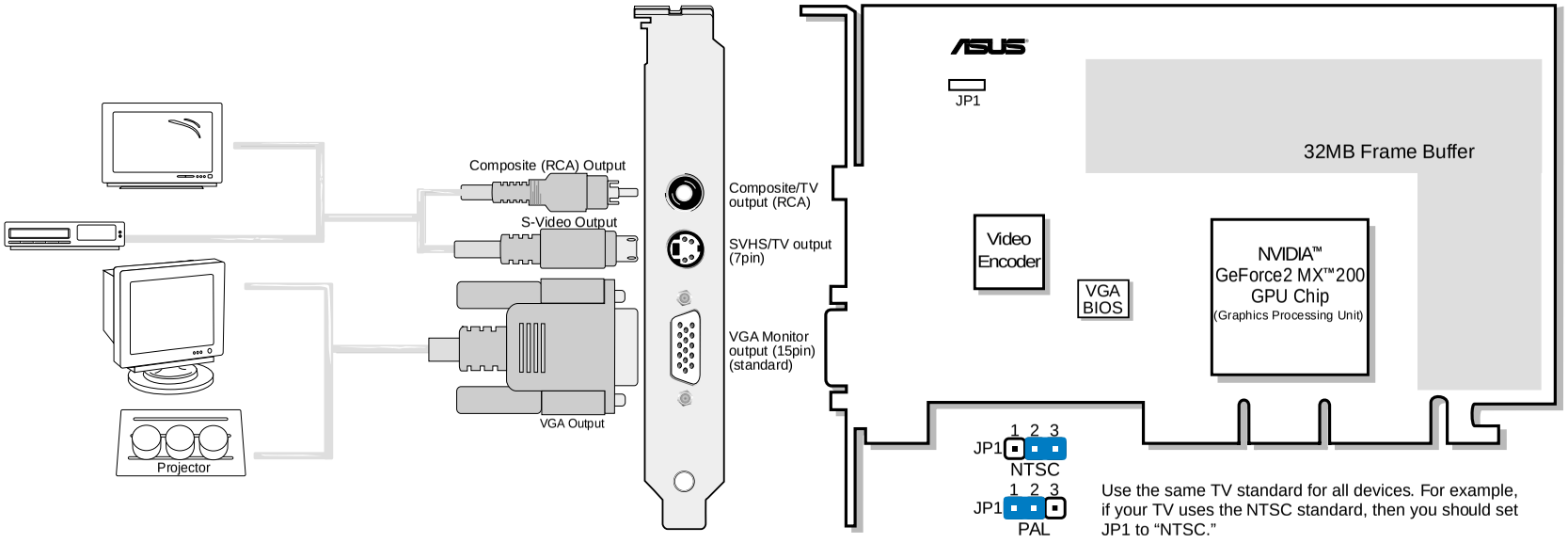
- ☑ ASUS V7100 / Deluxe Combo Graphics Card
- ☑ ASUS AV Adapter
- ☑ ASUS VR-100G
- ☑ This User's Manual
- ☑ ASUS V7100 Series Driver & Utility CD Disc

ASUS AV Adapter



ASUS V7100 Magic / T Layout

32MB Frame Buffer

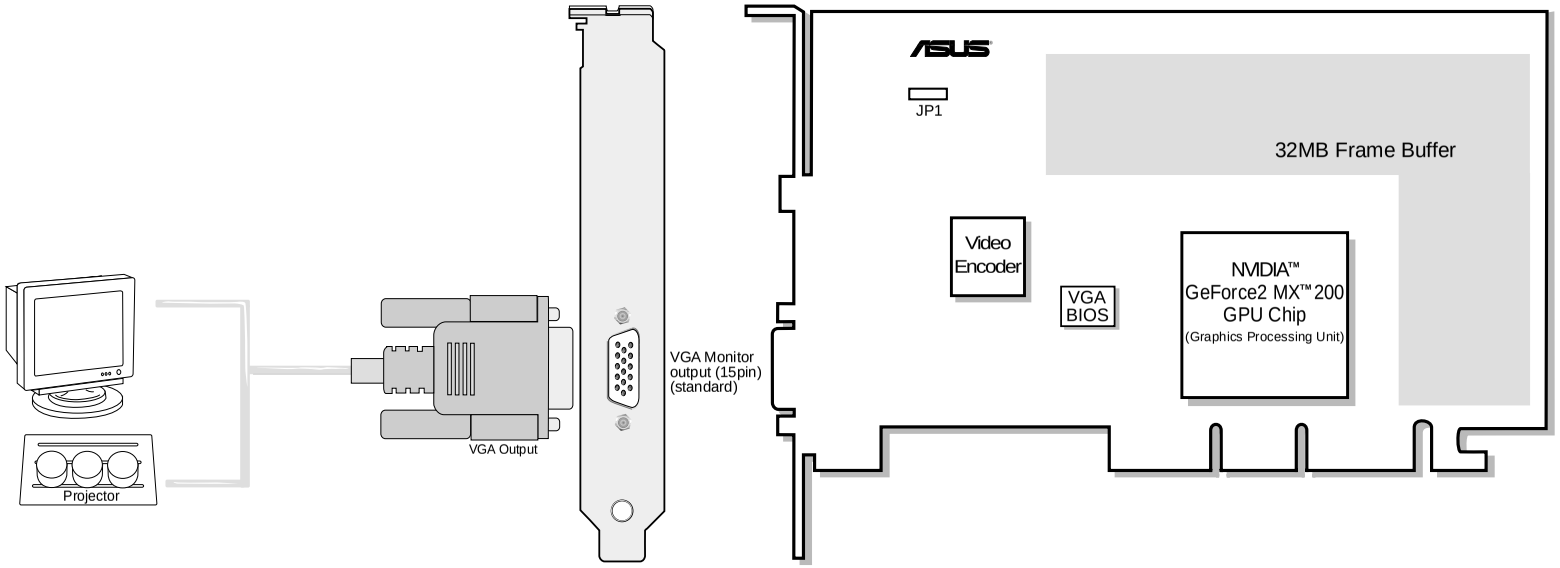


Item Checklist

- ☑ ASUS V7100 Magic / T Graphics Card (PAL or NTSC)
- ☑ This User's Manual
- ☑ ASUS V7100 Series Driver & Utility CD Disc

ASUS V7100 Magic / Pure Layout

32MB Frame Buffer



Item Checklist

- ☑ ASUS V7100 Magic / Pure Graphics Card
- ☑ This User's Manual
- ☑ ASUS V7100 Series Driver & Utility CD Disc

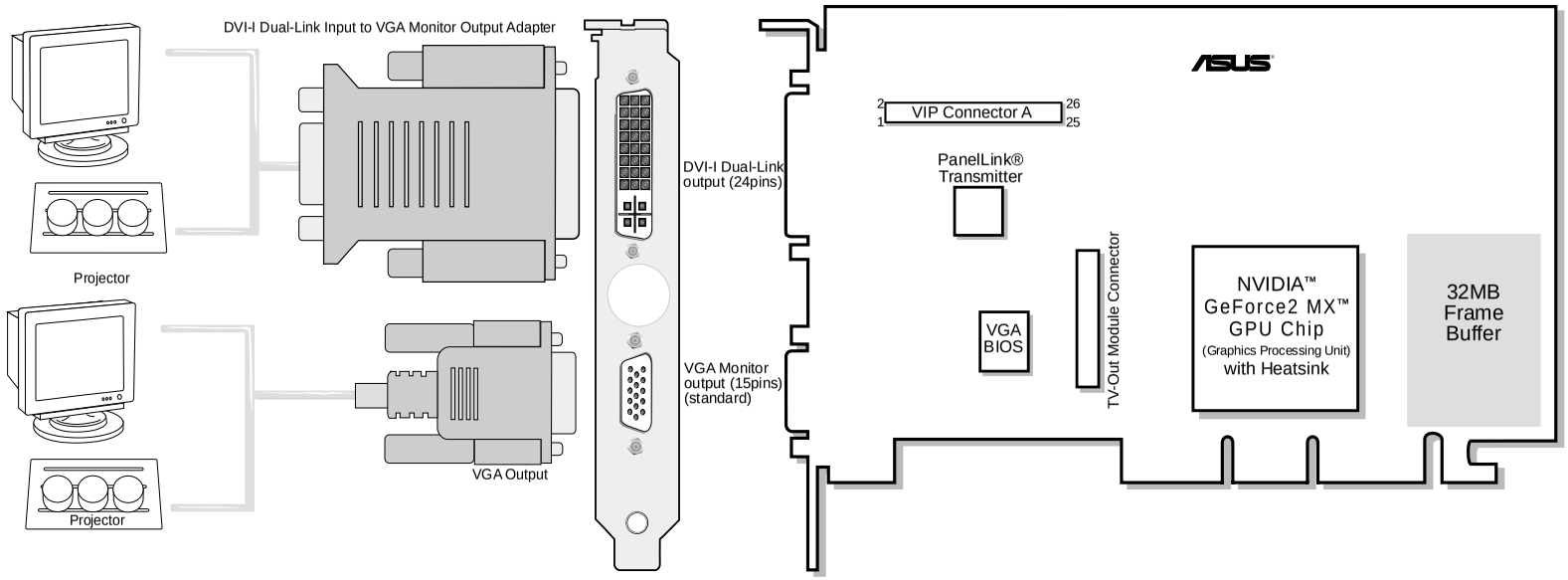
ASUS V7100 / 2V1D Layout

32MB Frame Buffer

The DVI Dual-Link output accepts either a 12- or 24-pin DVI plug connector or a new type of analog plug connector that uses four additional pins, plus a ground plane plug to maintain constant impedance for the analog RGB signals.

The PanelLink® transmitter takes a digital stream from a graphics source, converts it to DVI-compliant digital output, and transmits that output to a receiver in a display.

The VIP (Video Interface Port) Connector are used for third party add-on modules, such as video capture cards or television tuners.

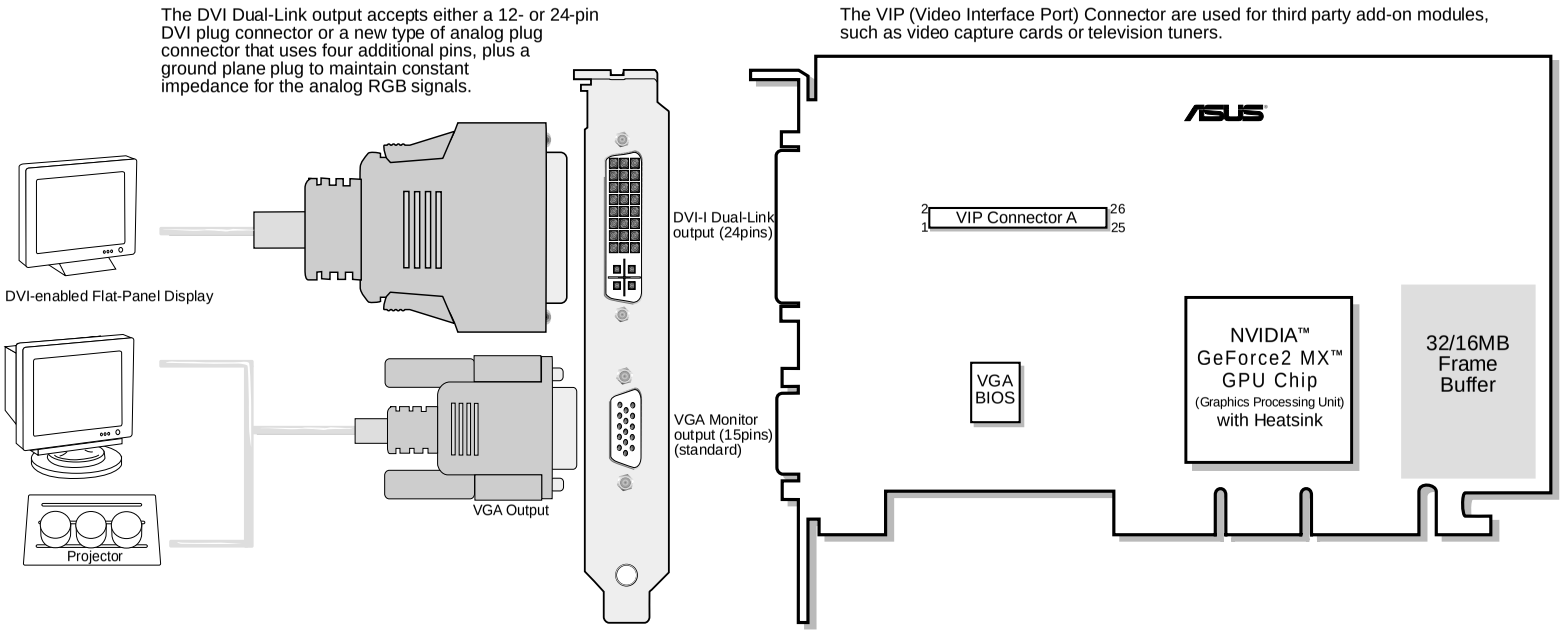


Item Checklist

- ☑ ASUS V7100 / 2V1D Graphics Card
- ☑ DVI-Dual-Link Inout to VGA Monitor Output Adapter
- ☑ This User's Manual
- ☑ ASUS V7100 Series Driver & Utility CD Disc

ASUS V7100 / DVI Layout

32/16MB Frame Buffer

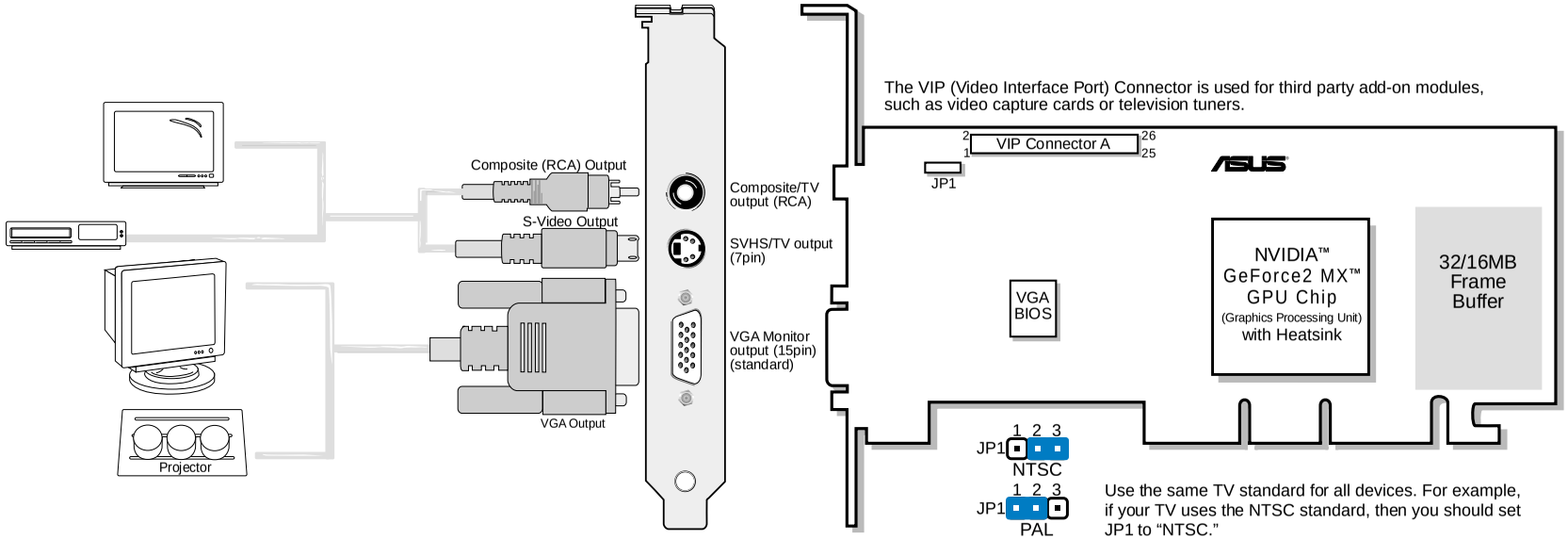

The DVI Dual-Link output accepts either a 12- or 24-pin DVI plug connector or a new type of analog plug connector that uses four additional pins, plus a ground plane plug to maintain constant impedance for the analog RGB signals.
The VIP (Video Interface Port) Connector are used for third party add-on modules, such as video capture cards or television tuners.
DVI-enabled Flat-Panel Display
Projector
VGA Output
DVI-I Dual-Link output (24pins)
VGA Monitor output (15pins) (standard)
ASUS
2
1
VIP Connector A
26
25
VGA BIOS
NVIDIA™ GeForce2 MX™ GPU Chip (Graphics Processing Unit) with Heatsink
32/16MB Frame Buffer

Item Checklist

- ☑ ASUS V7100 / DVI Graphics Card
- ☑ This User's Manual
- ☑ ASUS V7100 Series Driver & Utility CD Disc

ASUS V7100 / T Layout

32/16MB Frame Buffer


Composite (RCA) Output
S-Video Output
VGA Output
Projector
Composite/TV output (RCA)
SVHS/TV output (7pin)
VGA Monitor output (15pin) (standard)
The VIP (Video Interface Port) Connector is used for third party add-on modules, such as video capture cards or television tuners.
VIP Connector A
JP1
VGA BIOS
NVIDIA™ GeForce2 MX™ GPU Chip (Graphics Processing Unit) with Heatsink
32/16MB Frame Buffer
1 2 3
JP1
NTSC
1 2 3
JP1
PAL
Use the same TV standard for all devices. For example, if your TV uses the NTSC standard, then you should set JP1 to "NTSC."

Item Checklist

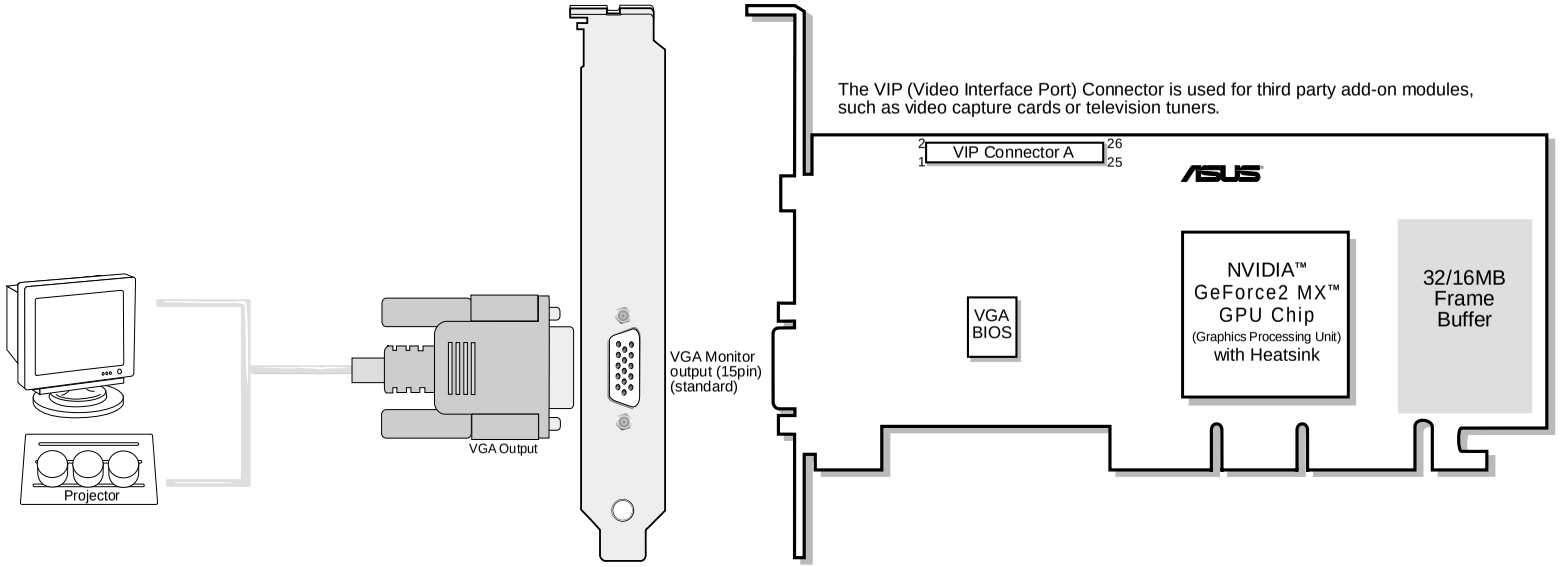
- ☑ ASUS V7100 / T Graphics Card (PAL or NTSC)
- ☑ This User's Manual
- ☑ ASUS V7100 Series Driver & Utility CD Disc

Notes

- Use the same TV standard for all devices.

ASUS V7100 / Pure Layout

32/16MB Frame Buffer

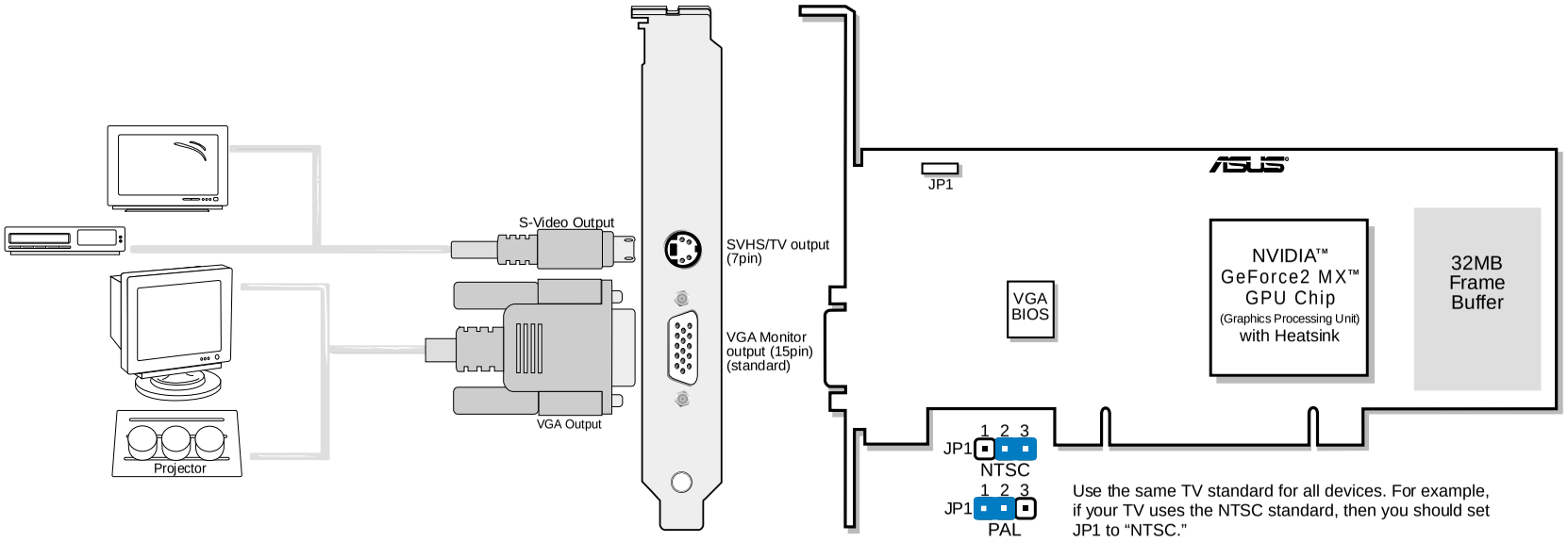


Item Checklist

- ☑ ASUS V7100 / Pure Graphics Card
- ☑ This User's Manual
- ☑ ASUS V7100 Series Driver & Utility CD Disc

ASUS PCI-V7100 Pro / T Layout

32MB Frame Buffer



Item Checklist

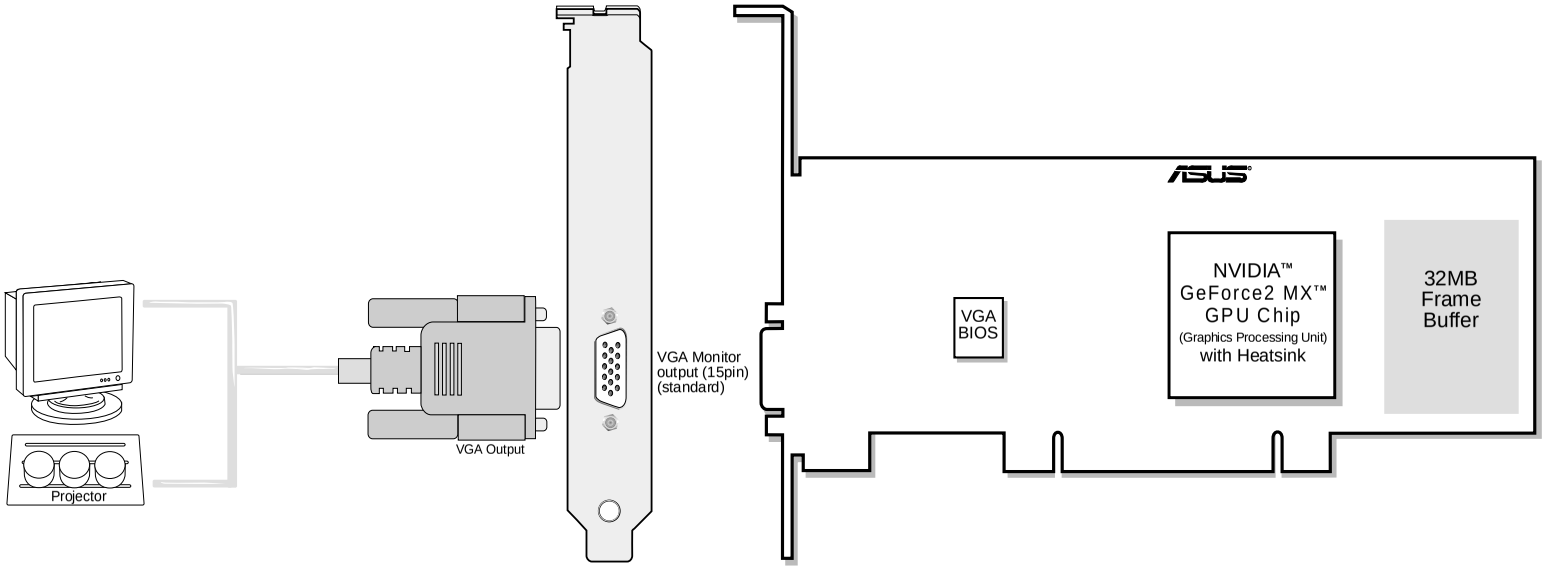
- ☑ ASUS PCI-V7100 Pro / T Graphics Card (PAL or NTSC)
- ☑ This User's Manual
- ☑ ASUS V7100 Series Driver & Utility CD Disc
- ☑ ASUS Low-Profile Bracket

Notes

- Use the same TV standard for all devices.

ASUS PCI-V7100 / Pure Layout

32MB Frame Buffer



Item Checklist

- ☑ ASUS PCI-V7100 Pure
- ☑ This User's Manual
- ☑ ASUS V7100 Series Driver & Utility CD Disc
- ☑ ASUS Low-Profile Bracket

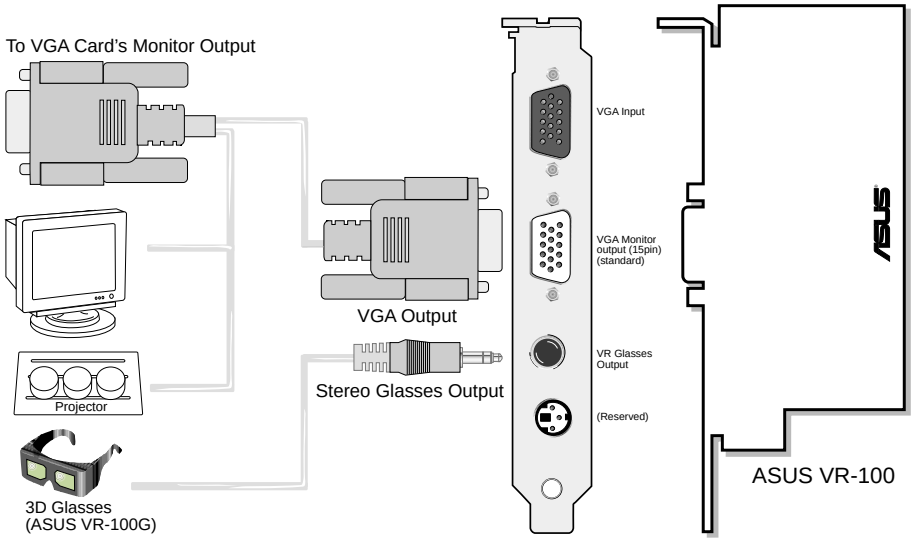
2. H/W Setup
PCI / Pure

ASUS VR-100 Optional Upgrade Kit

The ASUS VR-100 Optional Upgrade Kit enables the ASUS VR-100G 3D Glasses to be used with Pure models of the V7100 Series cards. *See* your dealer for more information on the ASUS VR-100 Optional Upgrade Kit.

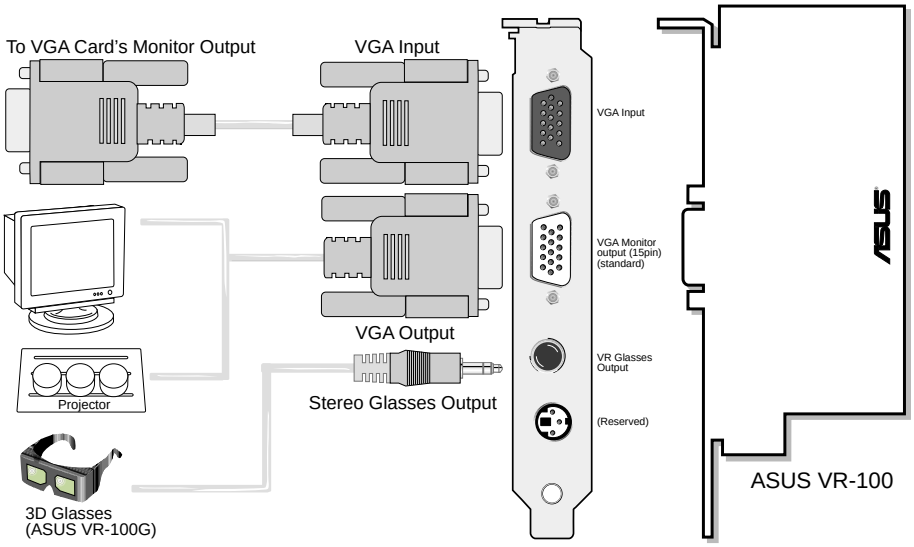
The monitor cable that came with your kit may be of the Y- or standard type. Connect your cable accordingly.

Y-Type Connection



When using a Y-type cable, you do not need to connect the VGA Input of the VR-100 to your VGA card's monitor output (*see* diagram above).

Standard Connection



You must anchor the ASUS VR-100's mounting bracket with a screw to a free expansion slot in your computer chassis.

3. Software Setup

NOTE: This graphics card series can only be installed in motherboards with an AGP slot.

WARNING! Computer boards and components contain very delicate Integrated Circuit (IC) chips. To protect the computer board and other components against damage from static electricity, you must follow some precautions.

1. Make sure that you unplug your power supply when adding or removing expansion cards or other system components. Failure to do so may cause severe damage to both your motherboard and expansion cards.
2. Keep all components such as the host adapter in its antistatic bag until you are ready to install it.
3. Use a grounded wrist strap before handling computer components. If you do not have one, touch both of your hands to a safely grounded object or to a metal object, such as the power supply case. Hold components by the edges and try not to touch the IC chips, leads, or circuitry.
4. Place components on a grounded antistatic pad or on the bag that came with the component whenever the components are separated from the system.

Installation Procedures

New VGA Cards

1. Unplug all electrical cords on your computer.
2. Remove the system unit cover.
3. Locate the AGP bus expansion slot. Make sure this slot is unobstructed.
4. Remove the corresponding expansion slot cover from the computer chassis.
5. Ground yourself to an antistatic mat or other grounded source .
6. Pick up the board (still in its sleeve) by grasping the edge bracket with one hand and then remove the plastic sleeve.
7. Position the card directly over the AGP slot and insert one end of the board in the slot first. Firmly but gently press the bus connector on the bottom of the card down into the slot. Be sure the metal contacts on the bottom of the host adapter are securely seated in the slot.
8. Anchor the board's mounting bracket to the computer chassis using the screw from the slot cover that you set aside previously.
9. Replace the cover on the system unit.
10. Connect your analog monitor's 15-pin VGA connector to the card and fasten the retaining screws (if any).
11. Connect other cables and devices if available -You are now ready to install the software drivers and utilities.

Systems with Existing VGA Card

1. Change your display driver to Standard VGA.
2. Shut down your computer and unplug all electrical cords.
3. Replace the existing VGA card with your graphics card.
4. Restart your computer.
5. Install the ASUS V7100 series display driver.

3. Software Setup

Operating System Requirements

NOTE: This graphics card requires a motherboard with an AGP slot.

Windows 98

Windows 98 supports full Direct3D and AGP features. If you are still using the beta version of Windows 98 and you want to fully take advantage the Direct3D and AGP features, you must upgrade it to the release version before installing the AGP display driver.

Windows 98 includes VGARTD for the major chipsets but it is recommended that you install VGARTD from the ASUS AGP-V7100 Series CD to make sure that you have the latest version of VGARTD (*see* **3. Software Setup | Install GART Driver**).

NOTES

- VGARTD stands for Virtual Graphics Address Remapping Table Driver, which is necessary to use the DIME feature of AGP. DIME means Direct Memory Execute, which is accessed *directly* by most AGP chips (when VGARTD is installed) for complex texture-mapping operations.
- For other notes or release information, see the README files in the installation CD disc.
- This Manual assumes that your CD-ROM disc drive is drive D: and that Windows is in C:\WINDOWS. Replace either with the actual location, if necessary.

IMPORTANT!

- **To avoid damage to your graphics card**, unplug your computer's power supply before inserting your graphics card into the AGP slot.
- Make sure that the power supply of your motherboard can provide enough electrical current on the 3.3V lead to maintain normal operation.
- The ASUS VR-100 Optional Upgrade Kit must be installed to enable the the ASUS VR-100G 3D glasses to be used with the Pure models.
- **Windows 98 and VIA Systems:** If your motherboard has a VIA-based chipset, the VIA VGARTD must be installed in normal mode.

Display Driver Installation

You can use one of the recommended methods to install the display drivers for your graphics card, depending on your operating system.

NOTE: The screen displays in this manual may not reflect exactly the screen contents displayed on your screen. The contents of the support CD are subject to change at any time without notice.

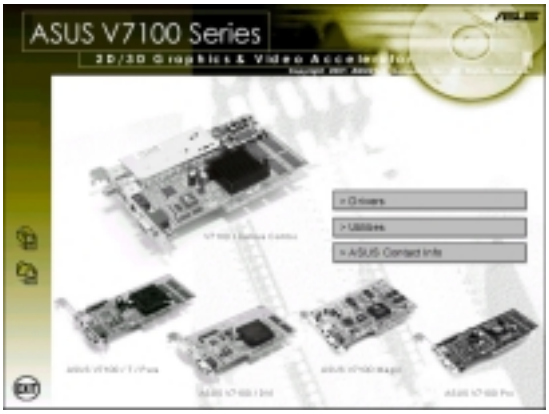
Windows 98

Method 2 and Method 3 will not install the appropriate AGP GART driver if your motherboard does not use the Intel AGPset. Installing the AGP GART driver will ensure that the AGPset's AGP functions are available. Method 2 and Method 3 will not install also the DirectX runtime libraries. DirectX must be installed so that your video player can take advantage of hardware acceleration. *See* **3. Software Setup | Install GART Driver** and **3. Software Setup | Install DirectX** later in this manual for the setup steps.

Method 1: ASUS Quick Setup Program

NOTE: *See* **3. Software Setup | Drivers | Install Display Driver** for more information.

1. Start Windows.
2. Switch display to Windows' Standard Display Adapter (VGA) mode and then restart Windows.
3. Insert the CD installation disc into your CD-ROM drive.
4. The Install Shell appears. Click **Drivers** and then click **Install Display Driver** on the **Drivers** dialog box.



5. Follow the onscreen instructions to complete the setup.
6. When Setup has finished installing all the necessary files on your computer, it will prompt you to restart your computer. Click **Yes...** and then **Finish** to restart your computer and to complete Setup.

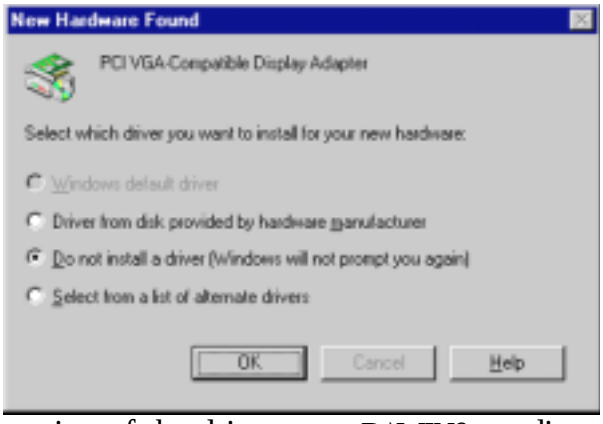
Method 2: Display Property Page

1. Start Windows.
2. Switch display to Windows' Standard Display Adapter (VGA) mode and then restart Windows.
3. Right-click the Windows desktop and click **Properties**.
4. Click the **Settings** tab and then click **Advanced**. The **Standard Display Adapter (VGA) Properties** dialog box appears.

5. Click **Change** on the **Adapter** tab. The **Update Device Driver Wizard** dialog box appears. Click **Next**, click **Display a list of all the drivers**... and then click **Next**.
6. Click **Show all hardware** and then click **Have Disk...**.When the **Install From Disk** dialog box appears, type the location of the ASUSNV9X.INF file (WIN9X folder) and then proceed to step 9. Otherwise, proceed to the next step.
7. Click **Browse** to search the CD-ROM drive. In the **Drives** box of the **Open** dialog box, select your CD-ROM drive and then click **OK**.
8. In the **Folders** box, double-click the WIN9x folder and then select ASUSNV9X.INF in the **File name** box.
9. Click **OK**. A list of video cards appears. Select your VGA card type for your operating system and then click **OK**.
10. The **Update Driver Warning** box appears. Click **Yes** to confirm the setting up of the ASUS enhanced display drivers and then follow the onscreen instructions to start the setup.
11. Setup will prompt you when it has finished installing all the necessary files on your computer. Click **Finish** to close Setup.
12. When you are returned to the **Standard Display Adapter (VGA) Properties** box, click **Close**. The **Display Properties** box appears. Click **Close**.
13. The system will prompt you to restart your computer. Click **Yes** to restart your computer and to complete Setup.

Method 3: Plug and Play

NOTE: Before proceeding with these steps, replace first your old VGA card with an ASUS AGP-V7100 series graphics card.


New Hardware Found
PCI VGA-Compatible Display Adapter
Select which driver you want to install for your new hardware:
Windows default driver
Driver from disk provided by hardware manufacturer
Do not install a driver (Windows will not prompt you again)
Select from a list of alternate drivers
OK
Cancel
Help

1. Start Windows.
2. When Windows detects your ASUS AGP-V7100 series graphics card, the **New Hardware Found** dialog box appears.
3. Click **Driver from disk provided by hardware manufacturer**.
4. When Setup prompts you for the location of the driver, type D:\WIN9x to direct Setup to the INF file and then click **Finish** to install the driver.
5. When Setup has finished installing all the necessary files on your computer, it will prompt you to restart your computer. Click **Yes** to restart your computer and to complete Setup.

Windows 2000

Method 1: ASUS Quick Setup Program

1. Start Windows.
2. When Windows detects your ASUS graphics card, the **Found New Hardware Wizard** dialog box appears.
3. Click **Cancel** to enter the Windows desktop.
4. Insert the CD installation disc into your CD-ROM drive.
5. The ASUS Windows 2000 Install Shell appears. Click **Drivers** and then click **Install Display Driver** on the **Driver** dialog box.

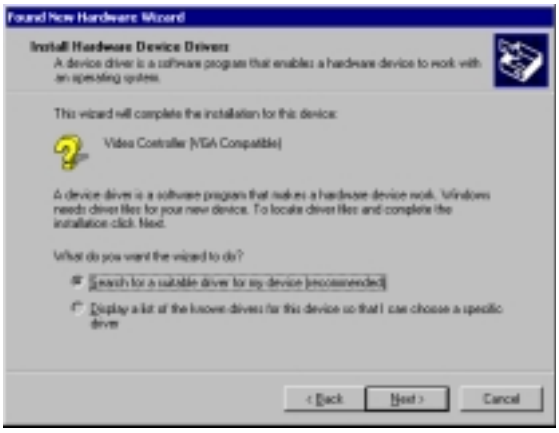
6. Follow the onscreen instructions to complete the setup.
7. When Setup has finished installing all the necessary files on your computer, it will prompt you to restart your computer. Click **Yes** to restart your computer and to complete Setup

Method 2: Plug and Play

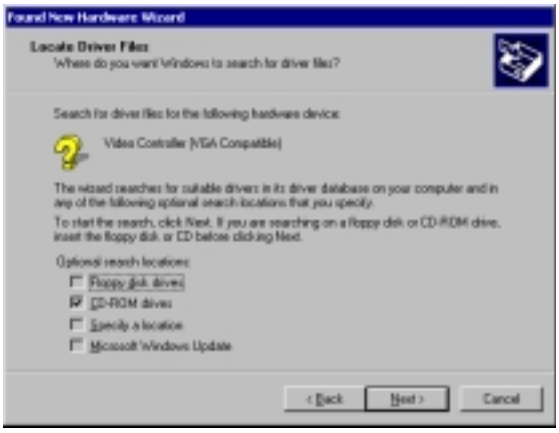
1. Start Windows.
2. When Windows detects your ASUS graphics card, the **Found New Hardware Wizard** dialog box appears.

Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
This wizard helps you install a device driver for a hardware device.
To continue, click Next.
< Back
Next >
Cancel

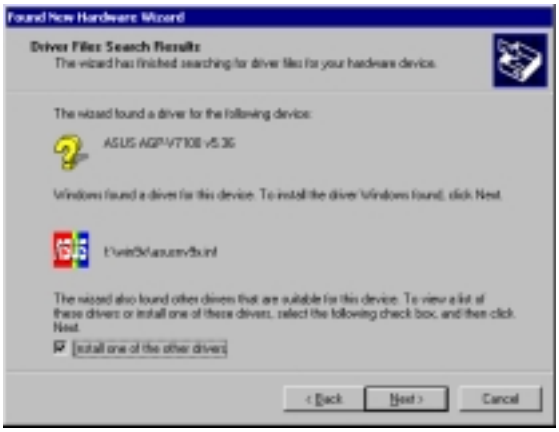
3. Click **Next**.
4. When the next **Found New Hardware Wizard** dialog box appears, select **Search for a suitable driver for my device (recommended)** and then click **Next.**.


Found New Hardware Wizard
Install Hardware Device Drivers
A device driver is a software program that enables a hardware device to work with an operating system.
This wizard will complete the installation for this device:
Video Controller (VGA Compatible)
A device driver is a software program that makes a hardware device work. Windows needs driver files for your new device. To locate driver files and complete the installation click Next.
What do you want the wizard to do?
Search for a suitable driver for my device (recommended)
Display a list of the known drivers for this device so that I can choose a specific driver
< Back
Next >
Cancel

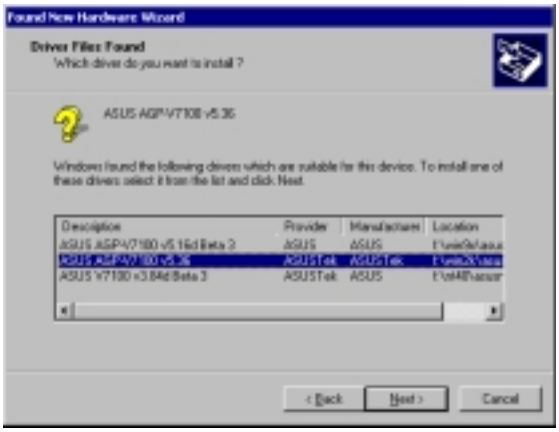
5. Insert the CD installation disc into your CD-ROM drive to bring up the **Locate Driver Files** item of the **Found New Hardware Wizard** dialog box.
6. Check **CD-ROM drives**, uncheck all other options and then click **Next** to search for the drivers of your graphics card.


Found New Hardware Wizard
Locate Driver Files
Where do you want Windows to search for driver files?
Search for driver files for the following hardware device:
Video Controller (VGA Compatible)
The wizard searches for suitable drivers in its driver database on your computer and in any of the following optional search locations that you specify.
To start the search, click Next. If you are searching on a floppy disk or CD-ROM drive, insert the floppy disk or CD before clicking Next.
Optional search locations:
Floppy disk drives
CD-ROM drives
Specify a location
Microsoft Windows Update
< Back
Next >
Cancel

7. When the wizard has finished searching for driver files for your graphics card, select **Install one of the other drivers** and then click **Next** from the **Driver Files Search Results** item of the **Found New Hardware Wizard** dialog box.


Found New Hardware Wizard
Driver Files Search Results
The wizard found a driver for the following device:
ASUS AGP-V7108 v5.36
Install one of the other drivers
< Back
Next >
Cancel

8. When prompted to select the display driver to install in your system, select the one that is located in the D:\WIN2K and then click **Next**.



9. Follow the onscreen instructions to complete the setup.

10. When Setup has finished installing all the necessary files on your computer, it will prompt you to restart your computer.

    Click **OK** to restart your computer and to complete Setup.

Windows NT 4.0

Method 1: Display Property Page

WARNING! Before installing the display driver in Windows NT 4.0, make sure that you have installed **Windows NT 4.0 Service Pack 3 or later, to take full advantage of the AGP features of your card.** (You may download service packs at http://www.microsoft.com/ntworkstation/downloads.**)**

NOTE: The following steps assume your CD-ROM drive letter is D.

1. Start Windows NT, switch display properties to VGA mode (16 colors, 640 x 480 pixels), then restart your computer to make the change.
2. After your computer restarts, right-click the desktop and click **Properties**.
3. Click the **Settings** tab.
4. Select **Change Display Type**.
5. Select **Adapter Type** and click **Change**.
6. Click **Have Disk**.
7. Insert the CD installation disc.
8. Type **D:\NT40** or click **Browse** to select the path of the display driver for Windows NT. Click **OK.**
9. Select **ASUS V7100** and then click **OK**.
10. Windows NT will once again prompt for confirmation. All appropriate files are then copied to the hard disk. When all files are copied, go back to the **Display Properties** box by clicking **Close**. Click **Apply.**
11. The **System Settings Change** dialog box is displayed. Click **Yes** to restart Windows.
12. Windows NT will restart with the default settings. The Display applet will appear to allow for mode selection.

Drivers

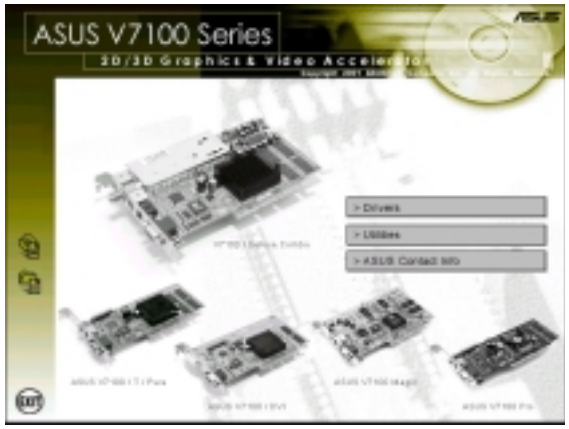
NOTES: 1) The screen displays in this manual may not reflect exactly the screen contents displayed on your screen. The contents of the support CD are subject to change at any time without notice.

2) Unless otherwise indicated, the procedures under **Drivers** apply to all the operating systems supported, namely, Windows 98, Windows 2000, and Windows NT 4.0.

Install Display Driver

1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

   Click **Drivers**.



2. **Windows 98:** The **Drivers** box appears. Click **Install Display Driver** to install all the drivers and utilities into your computer. Setup will install the drivers in the following order: Display Driver (Direct3D and OpenGL Drivers), DirectX runtime libraries, and VGART driver. Just follow the on-screen instructions to complete the installation.

   Windows 2000: Setup will only copy the display drivers.

   Windows NT 4.0: SETUPNT.TXT will appear. Follow the instructions to install the display driver. You may refer to the installation procedures earlier in **3. Software Setup | Windows NT 4.0 | Method 1: Display Property Page**.

If you prefer to install the drivers individually, follow the steps on the following pages.

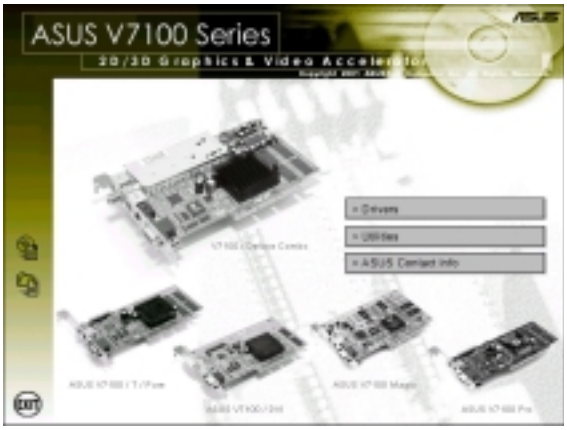
Install DirectX

Windows 98 Only

Microsoft DirectX allows 3D hardware acceleration support in Windows 98. For Software MPEG support in Windows 98, you must first install Microsoft DirectX, and then an MPEG-compliant video player.

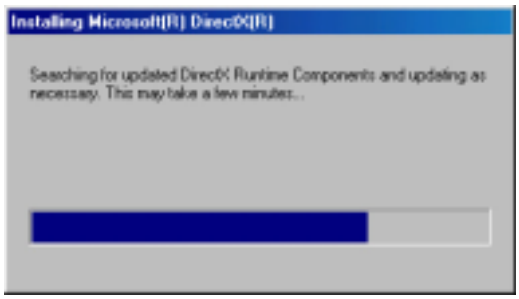
1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

   Click **Drivers**.

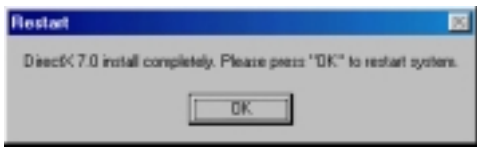


2. The **Drivers** box appears. Click **Install DirectX** to select the DirectX version you want to install.

3. The installation program will automatically install the DirectX 7 runtime libraries into your system.


Installing Microsoft(R) DirectX(R)
Searching for updated DirectX Runtime Components and updating as necessary. This may take a few minutes...

4. Setup will prompt when it has finished copying all the files to your computer. Click **OK** to finish the installation.



WARNING! Some games written for older DirectX versions may not work properly under DirectX 7. Make sure that your applications or games support DirectX 7 before installing the DirectX 7 runtime libraries. DirectX 7 currently cannot be uninstalled by regular means, such as outlined in **3. Software Setup | Uninstall Display Driver**.

Install GART Driver

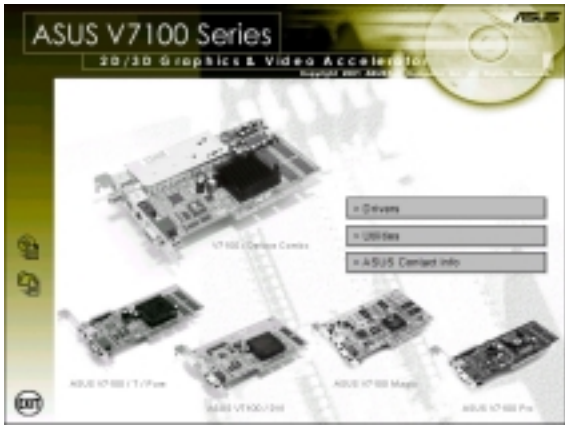
Windows 98/Windows 2000

The AGP GART Driver is used to support AGP functionality for the chipset on your PC's motherboard. It is recommended to install the GART driver if it is newer than the one you have installed in your system. The GART driver is only necessary for an AGP graphics card.

NOTE: Installation dialogs are slightly different for each chipset. Follow the on-screen instructions to finish the GART driver installation. The succeeding steps assume that you are installing for an Intel chipset.

1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

   Click **Drivers**.

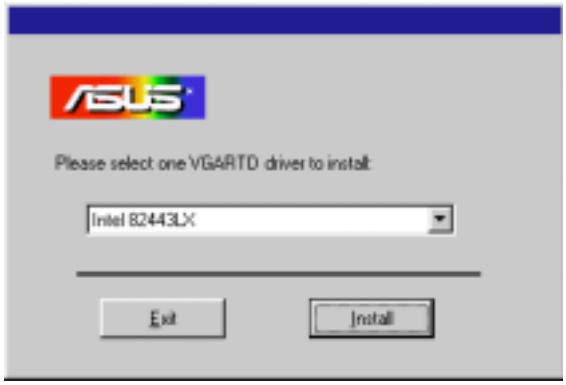


2. The **Drivers** box appears. Click **Install GART Driver** to install AGP support for motherboards with Intel, AMD, VIA, SiS, or ALi chipsets.

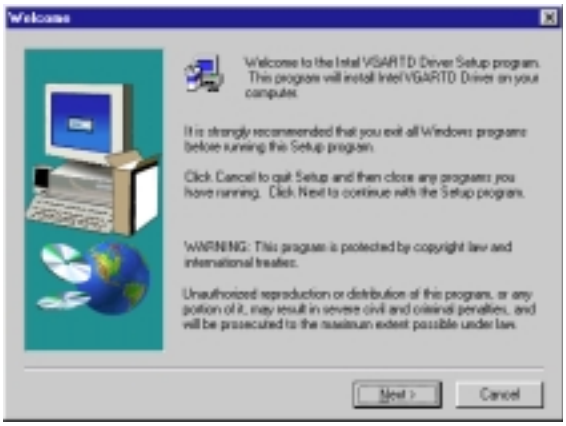
3. The **AGP VGARTD Driver Detection** box appears with the chipset detected on your motherboard. Click **OK** to install the appropriate driver for your AGPset.

Welcome to ASUS VGARTD Driver Installation Program.
The program has detected the chipset on your motherboard is:
Intel 82443LX
Do you want to install its VGARTD driver?
Yes, install its VGARTD driver.
No, I want to select the other drivers.
Exit
OK

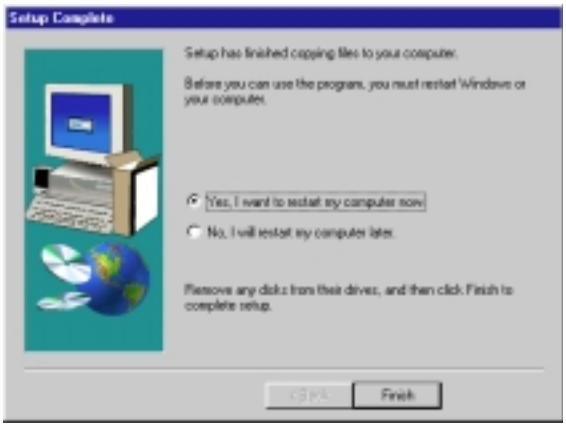
4. If you selected **No...**, on the previous screen before clicking **OK**, you will be presented with a selection of other drivers. Make your driver selection and click **Install**.



5. When the **Welcome** screen appears, click **Next** to continue.


Welcome
Welcome to the Intel VGARTD Driver Setup program. This program will install Intel VGARTD Driver on your computer.
It is strongly recommended that you exit all Windows programs before running this Setup program.
Click Cancel to quit Setup and then close any programs you have running. Click Next to continue with the Setup program.
WARNING: This program is protected by copyright law and international treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
Next >
Cancel

6. Once the driver installation is finished, click **Finish.**


Setup Complete
Setup has finished copying files to your computer.
Before you can use the program, you must restart Windows or your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish to complete setup.
Finish

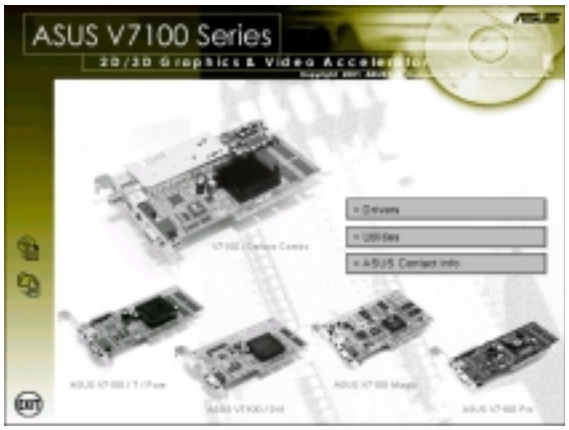
Install WDM Capture Driver

Windows 98/Windows 2000

The WDM Capture Driver must be installed to use some of the latest VCR applications. The driver conforms to the Microsoft Windows Driver Model (WDM) standard.

1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

   Click **Drivers**.

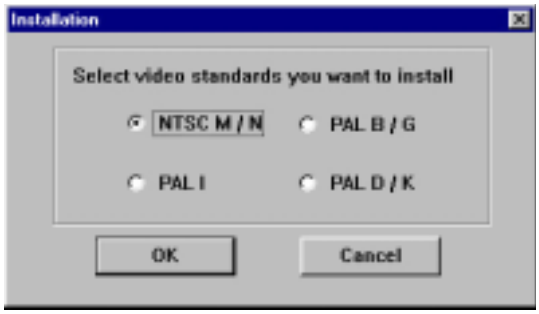


2. The **Drivers** box appears.

3. When the **ASUS WDM Capture Driver Setup** box appears, click **Install ASUS WDM Capture driver** and then click **OK**.

4. When the **Installation** box appears, click the appropriate TV standard for your system and then click **OK**.

5. To complete the installation, simply follow the on-screen instructions or prompts.



Install Video for Windows Capture Driver

Windows 2000/NT 4.0 Only

The Video for Windows Capture Driver must be installed to use ASUS Live Video (*see* **IV. Software Reference | ASUS Live Video**). This driver conforms to the Microsoft Video for Windows standard.

1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

   Click **Drivers** and when the **Drivers** box appears, click **Install Video for Windows Capture Driver**.

   To complete the installation, simply follow the on-screen instructions or prompts.

NOTE: Under Windows 98, the Video for Windows capture driver is installed during the installation of the display drivers.

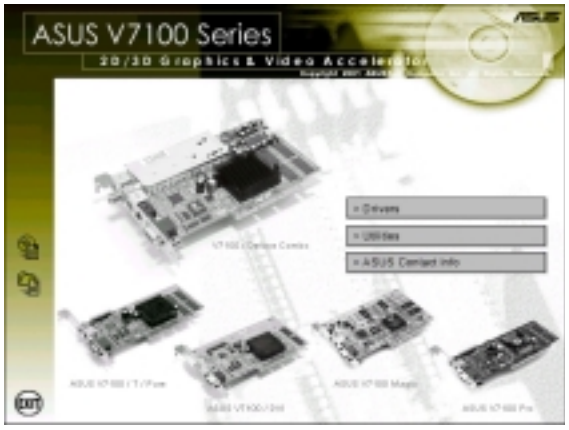
Install ASUS TWAIN Driver

Only with Deluxe Combo/Windows 98

ASUS TWAIN Driver is a frame capture driver for Adobe Photoshop®, an image editing software. With this driver, you can capture still images through Photoshop using the video input port of your card (*Deluxe Combo/Windows 98 only*).

1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

   Click **Drivers**.



2. The **Drivers** box appears. Click **Install ASUS TWAIN Driver.**.

3. When the **Welcome** box appears, click **Next** to start copying the files. Setup automatically starts copying the necessary files to the default folder.

   To complete the installation, simply follow the on-screen instructions or prompts.

Welcome
Welcome to the ASUS TWAIN DRIVER Setup program. This program will install ASUS TWAIN DRIVER on your computer.
It is strongly recommended that you exit all Windows programs before running this Setup program.
Click Cancel to quit Setup and then close any programs you have running. Click Next to continue with the Setup program.
WARNING: This program is protected by copyright law and international treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
Next >
Cancel

Uninstall Display Driver

If you want to update your display drivers or if you no longer need the display drivers for your card, you can use one of the following procedures to completely uninstall the drivers from your system to save disk space.

Windows 98

Method1: Using the Autorun Screen

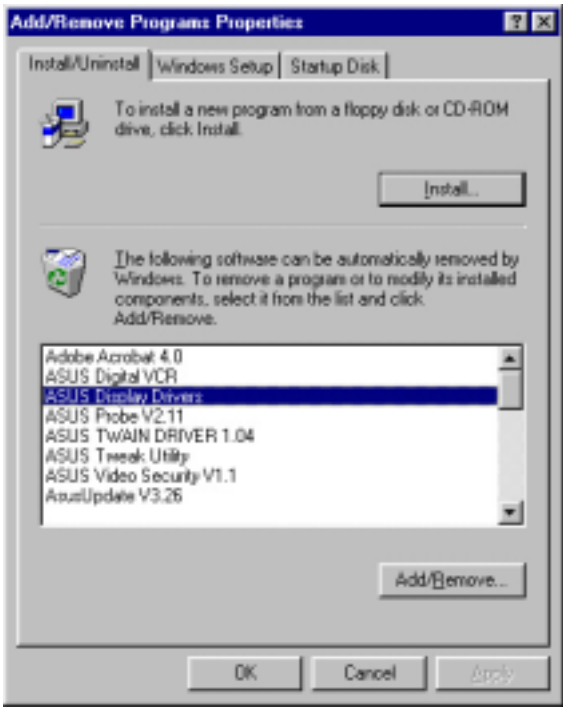
1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

   Click **Drivers**.

2. Click **Uninstall Display Driver** and follow the on-screen directions.

Method 2: Using Control Panel

1. Click **Start**, and then point to **Settings**.
2. Click **Control Panel**.
3. Double-click the **Add/Remove Programs** icon.
4. Click the **Install/Uninstall** tab.
5. Click **ASUS Display Drivers** from the list**.**
6. Click **Add/Remove**.
7. The system will prompt you to restart your computer. Click **Yes** to restart.

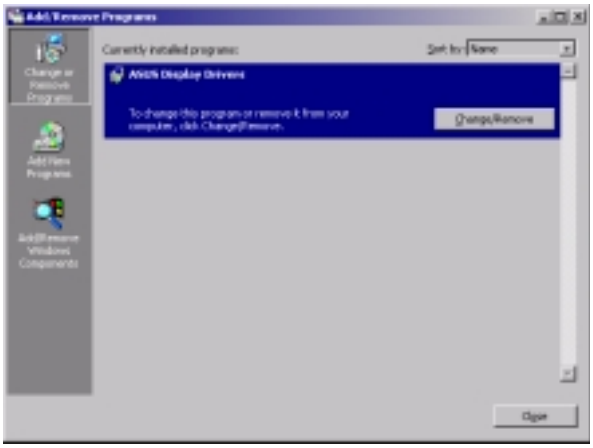

Add/Remove Programs Properties
Install/Uninstall
Windows Setup
Startup Disk
To install a new program from a floppy disk or CD-ROM drive, click Install.
Install...
The following software can be automatically removed by Windows. To remove a program or to modify its installed components, select it from the list and click Add/Remove.
Adobe Acrobat 4.0
ASUS Digital VCR
ASUS Display Drivers
ASUS Probe V2.11
ASUS TwAIN DRIVER 1.04
ASUS Tweak Utility
ASUS Video Security V1.1
AsusUpdate V3.26
Add/Remove...
OK
Cancel
Apply

Windows 2000

Method1: Using the Autorun Screen

See **Windows 98** | **Method 1: Using the Autorun Screen** earlier in this section for the procedures.

Method 2: Using Control Panel



1. Click **Start**, and then point to **Settings**.
2. Click **Control Panel**.
3. Double-click the **Add/Remove Programs** icon.
4. Click the **Change/Remove Programs** icon.
5. Click **ASUS Display Drivers** from the list**.**
6. Click **Change/Remove**.
7. The system will prompt you to restart your computer. Click **Yes** to restart.

Windows NT 4.0

Method 1: Using Control Panel

1. Click **Start**, and then point to **Settings**.
2. Click **Control Panel**.
3. Double-click the **Add/Remove Programs** icon.
4. Click the **Install/Uninstall** tab.
5. Click **ASUS Display Drivers** from the list**.**
6. Click **Add/Remove**.
7. The system will prompt you to restart your computer. Click **Yes** to restart.

Utilities

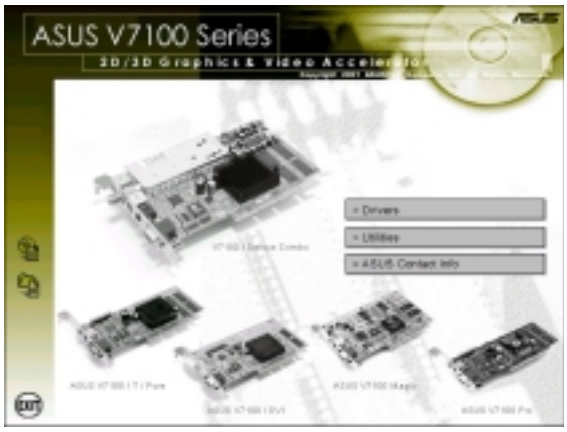
Install ASUS Tweak Utility

The ASUS Tweak Utility lets you control the core clock speed and the memory interface speed of your graphics card.

WARNING! Use this option with caution. Using this inappropriately may damage your card and cause your system to be unstable.

1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

   Click **Utilities**.



2. The **Utilities** box appears. Click **Install ASUS Tweak Utility**

3. When the **Welcome** box appears, click **Next**.

   To complete the installation, simply follow the on-screen instructions or prompts.

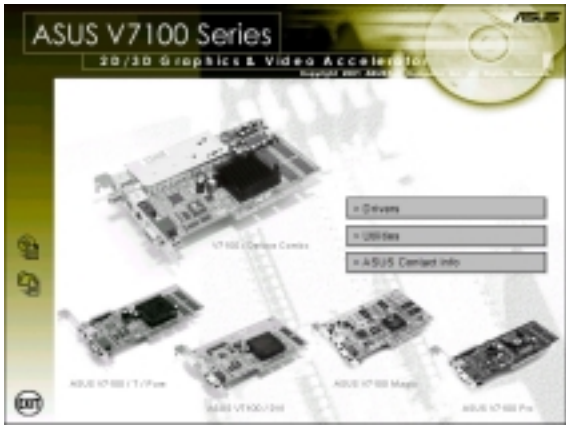
Welcome
Welcome to the ASUS Tweaking Utility Setup program. This program will install ASUS Tweaking Utility on your computer.
It is strongly recommended that you exit all Windows programs before running this Setup program.
Click Cancel to quit Setup and then close any programs you have running. Click Next to continue with the Setup program.
WARNING: This program is protected by copyright law and international treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
Next >
Cancel

Install SmartDoctor

SmartDoctor is a utility that monitors the card's graphic chip state, alerting users about abnormal events, such as a fan malfunction or chip overheat. Likewise, the utility "cools" down the graphic chip temperature when it is idle or returns it to its maximum capability when necessary.

1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

   Click **Utilities**.

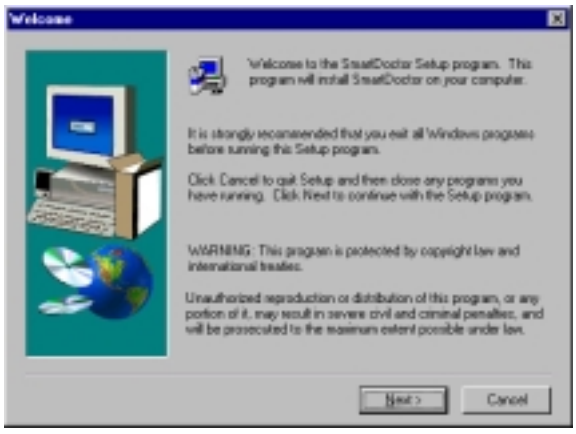


2. The **Utilities** box appears. Click **Install SmartDoctor**.

   NOTE: If your graphics card is not equipped with a monitor IC, an error message warns you that monitor IC was not detected. The installation will abort. **SmartDoctor** works only with cards with a monitor IC.

3. When the **Welcome** box appears, click **Next** to start the installation.

   To complete the installation, simply follow the on-screen instructions or prompts.



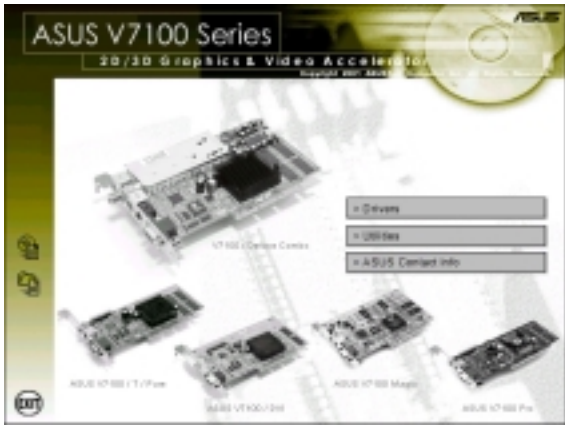
Install VideoSecurity

Windows 98 Only

VideoSecurity is a powerful video stream comparison and detection utility that helps in detecting potential errors or intrusions at a specific time interval by using a video capture device, such as a digital camera.

1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

   Click **Utilities**.



2. The **Utilities** box appears. Click **Install VideoSecurity**.

3. When the **Welcome** box appears, click **Next** to start the installation.

   To complete the installation, simply follow the on-screen instructions or prompts.

Welcome
Welcome to the ASUS Video Security Setup program. This program will install ASUS Video Security on your computer.
It is strongly recommended that you exit all Windows programs before running this Setup program.
Click Cancel to quit Setup and then close any programs you have running. Click Next to continue with the Setup program.
WARNING: This program is protected by copyright law and international treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
Next >
Cancel

3. Software Setup

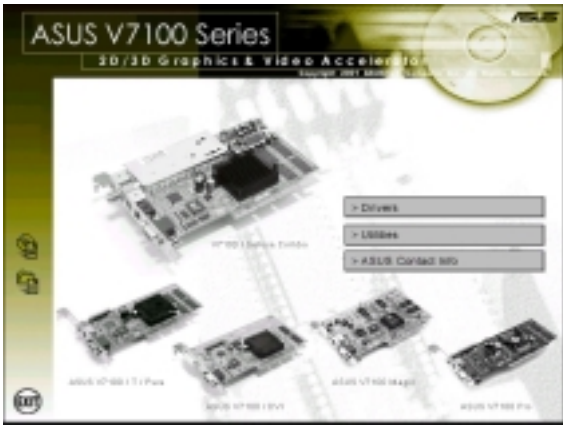
Install ASUS Live Utility

The ASUS Live utility lets you view and capture video images from the card's video input port.

NOTE: Make sure that you have an ASUS graphics card with VIDEO-IN connector before attempting to install the utility.

1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

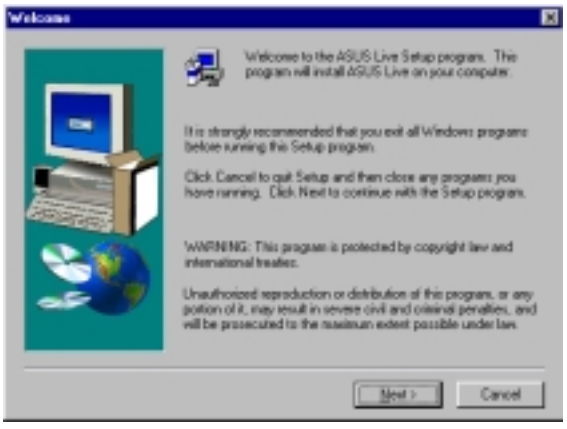
   Click **Utilities**.



2. The **Utilities** box appears. Click **Install ASUS Live Utility**.

3. When the **Welcome** box appears, click **Next** to start copying the files. Setup automatically starts copying the necessary files to the default folder.

   To complete the installation, simply follow the on-screen instructions or prompts.



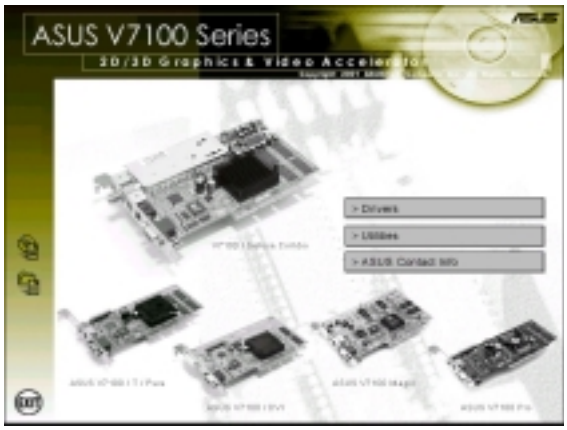
Install ASUS Digital VCR

ASUS DigitalVCR, like the ASUS Live utility, lets you view and capture video images from the card's video input port. Digital VCR, however, provides extra functions, such as a playback module and TimeShifting™ .

NOTE: Make sure that you have an ASUS graphics card with VIDEO-IN connector before attempting to install the utility.

1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

   Click **Utilities**.

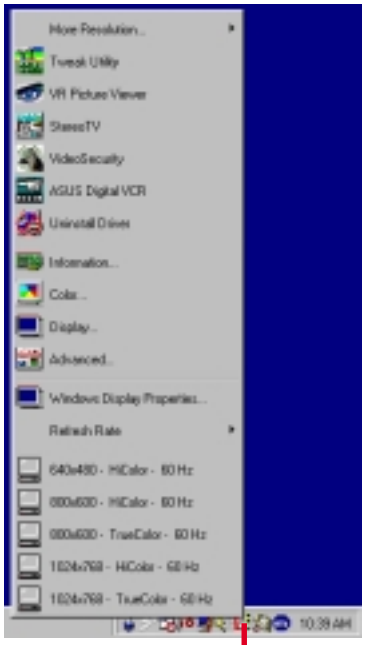


2. The **Utilities** box appears. Click **Install ASUS Digital VCR**.

3. When the **Welcome** box appears, click **Next** to start copying the files. Setup automatically starts copying the necessary files to the default folder.

   To complete the installation, simply follow the on-screen instructions or prompts.

ASUS Control Panel



After installing the display drivers, look for an **ASUS icon** on the **taskbar's status area**. **Clicking** this icon opens the **ASUS Control Panel**, a menu composed of shortcuts to the graphics board's various enhanced functions.

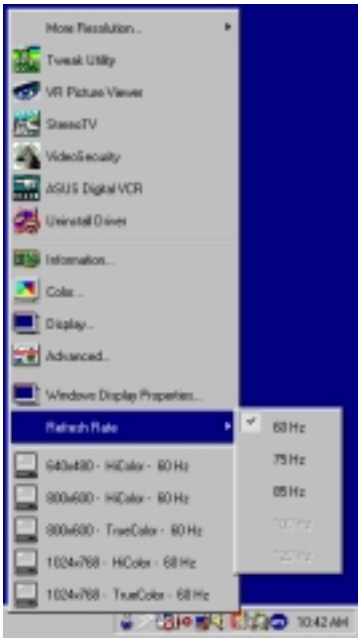
Alternatively: **right-click** the **Windows desktop**, then **click** the **Windows Display Properties field** and then **click** the **Settings tab**. With **Windows 98/2000**, next **click** the **Advanced** button on the **Settings menu**. Click the appropriate tab to change the display settings.

Refresh Rate

This control changes the refresh rate of the current screen resolution.

WARNING! Be sure that the refresh rate that you select is supported by your monitor. Selecting a refresh rate that is beyond your monitor's specification may damage it. **Press ESC to restore your original settings in case of problems.**

Click/right-click the ASUS Control Panel icon, then point to **Refresh Rate**, and **click** the desired refresh rate.

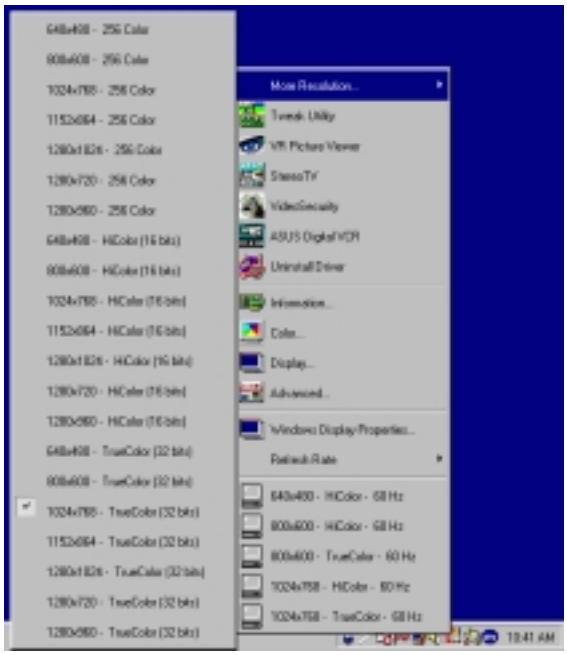


Next, the system prompts whether to keep the setting. Click **OK** to keep the setting, otherwise, **click Cancel** or **press ESC**.

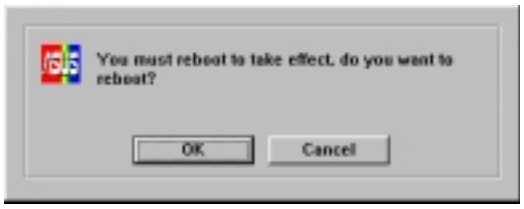
More Resolution

More Resolution lets you change the screen resolution of your monitor.

Click/right-click the ASUS Control Panel icon, point to **More Resolution**, and then click the desired screen resolution. The system will automatically set the resolution selected without restarting your computer.



WINDOWS 95 USERS: You will be prompted to restart your computer if you select a screen resolution with a different color depth, for example, from 800x600 HiColor to 800x600 TrueColor. Click **OK** to restart your computer to make the change.



Information

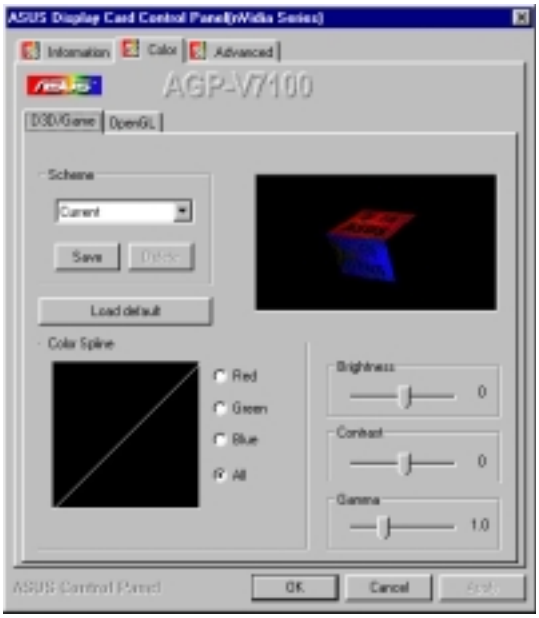
Information lists pertinent data about the graphics card. It supplies links to the ASUSTeK COMPUTER, INC. web site for accessing updated data about the graphics board and its latest drivers.

Color

Color facilitates **adjustments** to the **brightness**, **contrast** and **gamma** values for each or all of the **RGB colors**. These adjustments can be made for **D3D/Game** and **OpenGL environments**.

D3D/Game

D3D/Game lets you make your favorite color settings for D3D games.



OpenGL

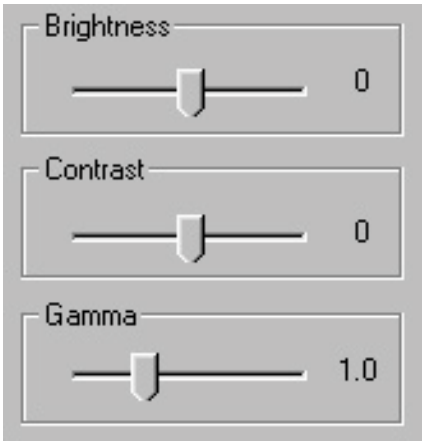
OpenGL lets you make your favorite color settings for OpenGL applications.

NOTE: The color settings of D3D/Game and OpenGL are not adjustable **below** 8-bit color depth.

General Functions

Brightness / Contrast / Gamma

Three sliders calibrate the brightness, contrast, and gamma output of the display card.



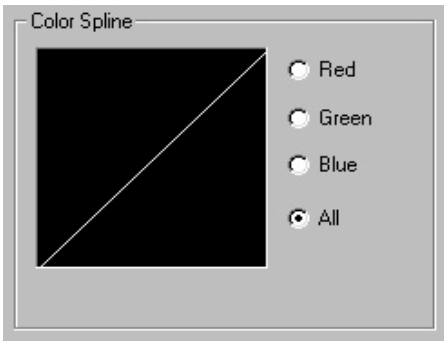
D3D/Game / OpenGL

Changes to color settings are shown immediately on your monitor. Dragging a slider to the left decreases the level and to the right increases it. The number at the right of each slider displays the brightness

Value Range: -128 to +128, default: 0, Contrast -30 to 30, default: 0; and Gamma value 0.2 to 3.0, default: 1.0.

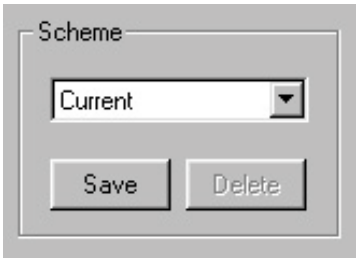
Color Spline

This tool shows the distribution of **Red**, **Green and Blue** color channels as adjustments are made to the **Brightness**, **Contrast**, or **Gamma** sliders. Adjust all channels at once: (**All**); or, make individual changes to each channel: (**R**, **G**, or **B**).



Scheme

This tool changes the appearance of many screen elements simultaneously and functions like a macro; saving a scheme retains particular system presets. Apply existing schemes, or create and save schemes by saving the current settings; existing schemes may be deleted. A scheme may be developed to satisfy the requirements of special situations, ie.: whenever playing a certain game or a movie.



Important Note

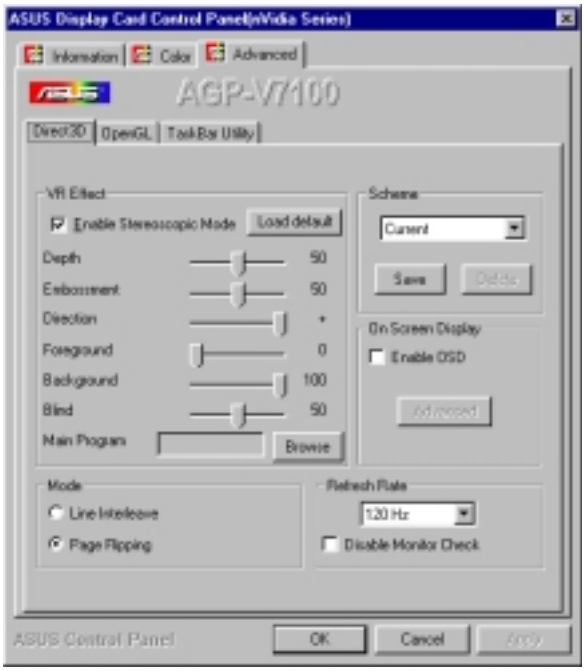
D3D/Game

The color settings of **D3D/Game** take effect only when playing a **full-screen DirectDraw/Direct3D** type game.

Advanced

This menu supplies sophisticated settings for use with the **ASUS VR-100G 3D Glasses**. These settings are available only with the **Deluxe/TVR** models with **Video-In/TV-Out**, or models with the **ASUS VR-100 Optional Upgrade Kit**.

Direct3D



VR Effect

Lists all parameters to fine tune the stereoscopic effects for **Direct 3D** games.

Enable Stereoscopic Mode

When selected, this enables the stereoscopic mode when playing games or watching 3D videos.

NOTE: Quit all running DirectDraw/ Direct3D applications and then restart them for options to take effect.

Load Default

Restores the initial settings.

Depth

Adjust this to add more depth to the scene.

NOTE: If set too high, eye fatigue may occur.

Embossment

Adjust this to add more to the impression that screen objects are being pulled or seem to pop from the screen. (*See* **On Screen Display** later in this section for more details.) ***NOTE***: If set too high, eye discomfort and fatigue may occur.

Direction

Sometimes, moving the slider to the left when adjusting **embossment** does not give the expected effects. Therefore, it may be necessary to adjust the **direction** effect slider **leftwards** to gain added responsiveness.

Foreground

Foreground is set in conjunction with **background** to stretch the **histogram chart** on the **D3D OSD box** of current games to scale the depth of 3D objects (*see* pages 49 and 50 for an examples and more info). Move the **foreground** slider **leftwards** to shift the foreground along the Z-axis towards "0."

Background

Background is set in conjunction with **foreground** to stretch the **histogram chart** on the **D3D OSD box** of current games to scale the depth of 3D objects. Move the **foreground** slider **leftwards** to shift the foreground along the Z-axis toward "100."

Blind

This slider discards "garbage," cropping out unwanted areas from the left/right peripheries of the display. Setting to "0" does not discard any of the display area, while setting to a higher value crops them away.

Main Program

This field is used in conjunction with the **Scheme** function **below**. When selecting a D3D OSD scheme for a specific program, load the scheme default file.

Mode

Line Interleave

Select this option for better monitor compatibility, particularly for monitors with less bandwidth or less range of horizontal/vertical frequency. Stereoscopic visual quality, however, will be poor since only half the vertical lines are generated.

Page Flipping

Select this option for the best stereoscopic visual quality. Page flipping provides double vertical resolution compared with Line Interleave. The monitor must be able to support the high frequency (at least 100Hz) necessary for this mode.

Refresh Rate

To prevent eye discomfort and fatigue, high refresh rates are preferred. Some monitors, however, may not be able to support a high refresh rate. Consult documentation to make sure that your monitor supports the selected refresh rate; otherwise, your monitor may become unstable, ie.: a blank screen may occur.

Disable Monitor Check

Disables the specification check on the monitor.

Note: Choosing a resolution or refresh rate in excess of monitor specifications may damage the monitor.

Scheme

This field lists the various default schemes that change the appearance of many screen elements simultaneously. Use existing schemes by selecting from the games listed in the drop-down menu and then go to the **main program** field to **browse** for the default settings file supplied with each game for D3D OSD settings. **Click** on **Save** to engage the file with the NVIDIA system. Create and save your own scheme by saving current custom settings. Unwanted schemes may be deleted. You may want to save a scheme that you created for some special situations, such as when you want to use the same settings when playing a certain game or a movie.

Tips for VR!

1. Make sure that the 3D screen objects do not appear either too far apart, or separated into slightly overlapping images. These effects indicate **over-** or **under-compensation**. **Readjust** the settings to avoid eyestrain.
2. Settings may be adjusted to make some objects appear to hover above the screen area as other objects float below the surface. A ratio of 1:3 to 1:5 of objects above to below is recommended.
3. For race games, use **embossment** to make your car appear above the screen.
4. For first-person shooting games, use **embossment** to make only your hand/weapon appear above the screen.

On Screen Display

Enable OSD

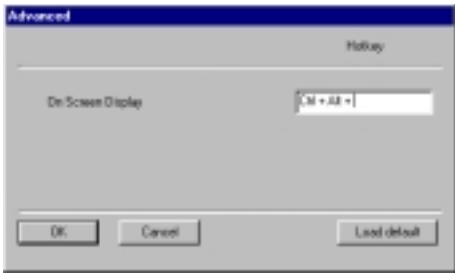
Clicking on the check box enables access to the **advanced** box. When selected, this option opens the **D3D On Screen Display.** Use the defined **Hotkey** and adjust the onscreen settings of the 3D glasses and display card while playing Direct 3D games or watching 3D movies.

Advanced

Click on the button to access the **advanced** box to access **hotkey** assignments.

Hotkey

This function assigns hot keys to enable onscreen display or OSD. Select **Enable OSD** then **click** on the **advanced button**. Change the default hot key (CTRL + ALT + O) if it conflicts with hot keys of certain games, video players or Windows programs.



To change the default hot keys

With the mouse cursor in the **Hotkey** box, press the hot key combination of your choice (only **CTRL + ALT + *X*** key combinations can be defined). Keys that are unavailable for hotkey ***X*** values include: ESC, ENTER, TAB, SPACEBAR, PRINT SCREEN, or BACKSPACE. Press any other key to complete the combination. For example: to define the hot key combination **CTRL+ALT+D**, having placed the cursor in the box - **press D**.

NOTE: Hot keys will be available only if you selected the **Enable OSD** check box

IMPORTANT: Before enabling *D3D* stereoscopic mode and using the stereoscopic or 3D glasses (ASUS VR-100G), make sure the monitor can support the selected refresh rate (interlaced mode) under the following display scales:

16 bits: 640 x 480, 800 x 600, 960 x 720, 1024 x 768, 1152 x 864
32 bits: 640 x 480, 800 x 600

WARNING! To prevent discomfort and eye fatigue when using stereoscopic or 3D glasses, DO NOT use 3D glasses for an extended period of time. Take frequent short breaks to give your muscles and eyes a chance to rest: remove the 3D glasses and then look up and focus on distant objects.

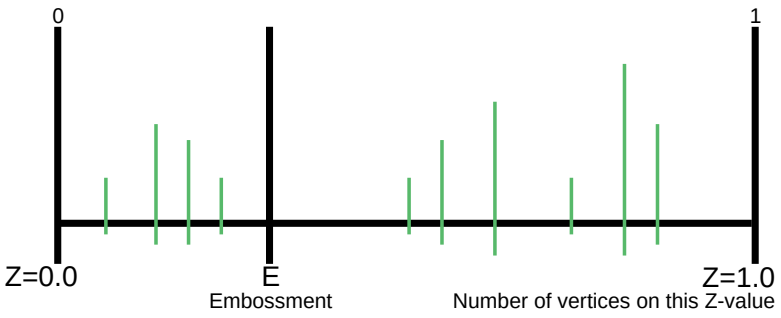
Typical D3D OSD Onscreen Game Settings

Beetle Crazy Cup™ is copyright © 2000 by INFORGRAMES
Original idea and development by XPIRAL™ (Efecto Caos S.L.)

When selected, the **D3D onscreen menu** helps to adjust the settings of 3D glasses and the display card while playing games or watching 3D videos. Typical **D3D OSD** onscreen settings include: **Depth**, **Embossment**, **Direction**, **Background**, **Foreground**, **Blind**, **Brightness**, **Contrast**, and **Gamma**.

In most games, use the keyboard **UP** or **DOWN** arrow keys to select a new setting. The **PLUS** or **MINUS** keys move the sliders. To restore the defaults, press the HOME key. To close screen settings display, use the END key.

D3D/OSD Histogram



The OSD Histogram Chart pinpoints the Z-axis range upon which 3D objects appear as well as how they gather. For example, if the above chart (simulated) was displayed for a car racing game, the vertices to the **left** of the **E line** could be the model of the game player's car, and those objects to the **right** of the **E line** could be the road, houses, other cars or trees in front of the car.

So, with this information, the user may:

- Adjust **embossment** by moving the **E line**.
- Adjust **foreground/background**, thus stretching out the histogram to make objects more evenly distributed.

NOTE: Using the histogram chart requires games using **Direct3D® 6.0** or earlier.

Known Issues on Specific Games

See the ASUS support CD for the latest information: D3DVR.TXT in the WIN9XME folder.

All registered and unregistered trademarks are the property of their respective users. No intended endorsement of these products or games by ASUSTeK COMPUTER INC. and its subsidiaries is intended or implied.

OpenGL

VR Effect

Lists all parameters to fine tune the stereoscopic effects for **OpenGL** games.

Enable Stereoscopic Mode

When selected, this enables the stereoscopic mode when using **OpenGL 3D** applications and games with the **ASUS VR-100G 3D Glasses**. These settings are available only with the **Deluxe/ TVR** models with **Video-In/TV-Out**, or models with the **ASUS VR-100 Optional Upgrade Kit**.

Eyes

This field records the measure of the distance between both eyes. Adjustment brings objects into focus. **Default: 0**

View Angle

The angle by which your two viewing directions intersect. Adjust this to add more depth to the scene.When set to a too high value, eye discomfort/fatigue may occur.

Embossment

Adjust this to add more to the impression that screen objects are being pulled or seem to pop from the screen. To achieve a better stereoscopic visual quality, set **Embossment** in conjunction with **View Angle**. (*See* **On Screen Display** later in this section for more details.)

Mode

Line Interleave

Select this option for better monitor compatibility, particularly for monitors with less bandwidth or less range of horizontal/vertical frequency. Stereoscopic visual quality, however, will be poor since only half the vertical lines are generated.

Page Flipping

Select this option for the best stereoscopic visual quality. Page flipping provides double vertical resolution compared with Line Interleave. The monitor must be able to support the high frequency (at least 100Hz) necessary for this mode.

Refresh Rate

To prevent eye discomfort and fatigue, high refresh rates are preferred. Some monitors, however, may not be able to support a high refresh rate. Consult documentation to make sure that your monitor supports the selected refresh rate; otherwise, your monitor may become unstable, ie.: a blank screen may occur.

Disable Monitor Check

Disables the specification check on the monitor.

Note: Choosing a resolution or refresh rate in excess of monitor specifications may damage the monitor.

Scheme

This field lists the various default schemes that change the appearance of many screen elements simultaneously. Use existing schemes by selecting from the games listed in the drop-down menu and then go to the **main program** field to **browse** for the default settings file supplied with each game for OpenGL OSD settings. **Click** on **Save** to engage the file with the NVIDIA system. Create and save your own scheme by saving current custom settings. Unwanted schemes may be deleted. You may want to save a scheme that you created for some special situations, such as when you want to use the same settings when playing a certain game or a movie.

On Screen Display

Enable OSD

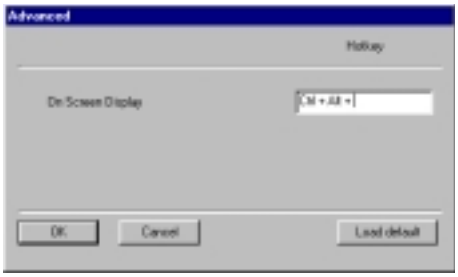
Clicking on the check box enables access to the **advanced** box. When selected, this option opens the **OpenGL On Screen Display.** Use the defined **Hotkey** and adjust the onscreen settings of the 3D glasses and display card while playing Direct 3D games or watching 3D movies.

Advanced

Click on the button to access the **advanced** box to access **hotkey** assignments.

Hotkey

This function assigns hot keys to enable onscreen display or OSD. Select **Enable OSD** then **click** on the **advanced button**. Change the default hot key (CTRL + ALT + O) if it conflicts with hot keys of certain games, video players or Windows programs.



To change the default hot keys

With the mouse cursor in the **Hotkey** box, press the hot key combination of your choice (only **CTRL + ALT + *X*** key combinations can be defined). Keys that are unavailable for hotkey ***X*** values include: ESC, ENTER, TAB, SPACEBAR, PRINT SCREEN, or BACKSPACE. Press any other key to complete the combination. For example: to define the hot key combination **CTRL+ALT+D**, having placed the cursor in the box **- press D**.

NOTE: Hot keys will be available only if you selected the **Enable OSD** check box.

IMPORTANT: Before enabling *OpenGL* stereoscopic mode and using the stereoscopic or 3D glasses (ASUS VR-100G), make sure the monitor can support the selected refresh rate (interlaced mode) under the following display scales:

16 bits: 2048x1536 → 1024x768 Stereo Mode
32 bits: 1280x960 → 640x480 Stereo Mode, 1280x1024 → 640x480 Stereo Mode, 1600x900 → 800x600 Stereo Mode, 1600x1200 → 800x600 Stereo Mode

WARNING! To prevent discomfort and eye fatigue when using your stereoscopic or 3D glasses, DO NOT try to use your 3D glasses for an extended period of time. Take frequent short breaks to give your muscles and eyes a chance to rest by taking off your 3D glasses and then looking up and focusing on distant objects.

Typical OpenGL OSD Onscreen Game Settings

Unreal Tournament™ is copyright © 1999 by Epic Games, Inc.

When selected, the **OpenGL onscreen menu** helps to adjust the settings of 3D glasses and the display card while playing games or watching 3D videos. Typical OSD onscreen settings include:**Eyes**, **View Angle**, **Embossment**, **Brightness**, **Contrast**, and **Gamma**.

In most games, use the keyboard **UP** or **DOWN** arrow keys to select a new setting. The **PLUS** or **MINUS** keys move the sliders. To restore the defaults, press the HOME key. To close screen settings display, use the END key.

Known Issues on Selected Games/Applications

See the included support CD for the latest information: OPENGLVR.TXT in the WIN9XME folder.

All registered and unregistered trademarks are the property of their respective users. No intended endorsement of these products or games by ASUSTeK COMPUTER INC. and its subsidiaries is intended or implied.

TaskBar Utility

This utility gives convenient access to various features and presets that may be configured in the **Display Properties Menu** directly from the **Windows taskbar**.

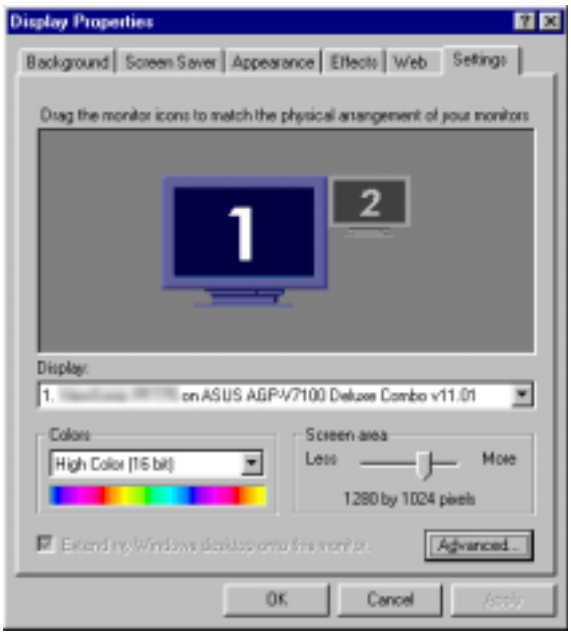
ASUS Display Card Control Panel(nVidia Series)
Information
Color
Advanced
AGP-V7100
Direct3D
OpenGL
TaskBar Utility
The "ASUS Control Panel" taskbar utility lets you conveniently access various features and presets you've configured in the Display Properties directly from the Windows taskbar.
If you are using a multiple display configuration, "ASUS Control Panel" also offers you several icons, which helps you configure each display separately.
Display the icon of "ASUS Control Panel" in the taskbar
ASUS Control Panel
OK
Cancel

Windows Display Properties

The Windows Display Properties is a control panel that helps to make screen adjustments: to the display positions and to color correction, including: brightness, contrast, and gamma. The display properties menu is useful to enable and configure the TwinView display and to make additional property adjustments.

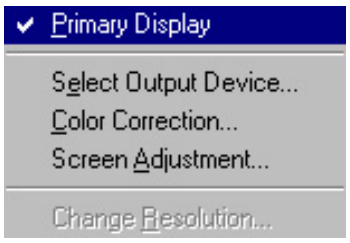
To use **Windows Display Properties**, **click** the ASUS icon on the taskbar's status area to open the **ASUS Control Panel Menu**. Click **Windows Display Properties**, click the **Settings** tab, and then click **Advanced**.

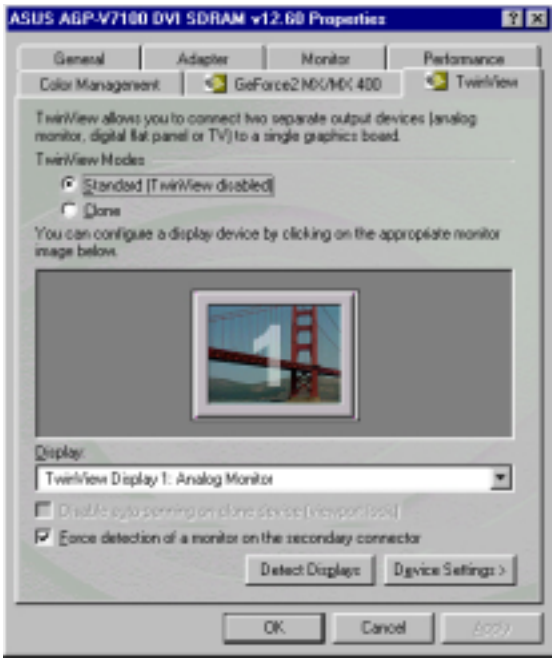
***NOTE*:** Instead of clicking the ASUS Control Panel icon, you may right-click the Windows 98/2000 desktop, click **Properties**, and then click the **Settings** tab. Then click the **Advanced** button on the bottom right. Click the appropriate tab (with the NVIDIA icon) to change your display settings.



Device Settings

To make adjustments to device setting sub-menus, first **click** the **Advanced** menu from **Display Properties** and then **click** the **TwinView** tab. Click on the **Device Settings** button:

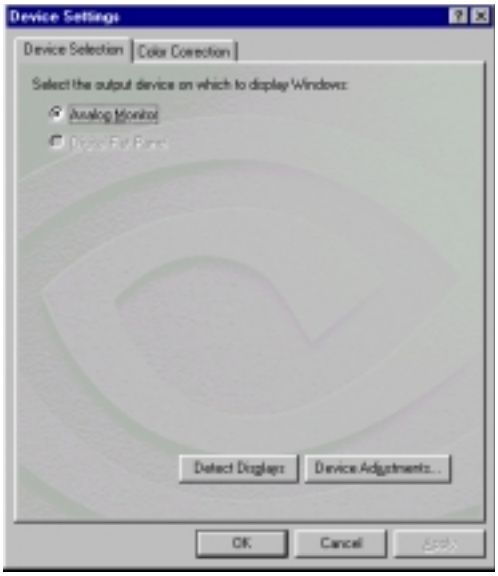




TIP! You can almost always get more information about a particular option by right-clicking it and then clicking **What's This?**

Device Selection Status

Click on **Select Output Device** to display the current status of your system and to access the **Device Adjustments** button.

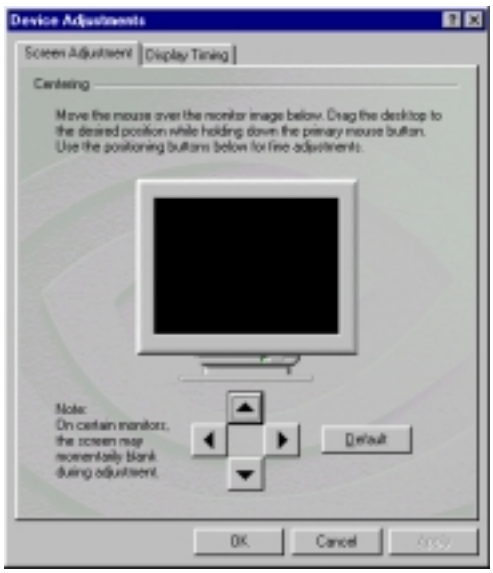


Analog Monitor

Screen Adjustments

Two submenus permit changes to the position and proper timing mode for your monitor. In **Screen Adjustments**, follow the onscreen instructions to adjust the position of your monitor. For fine adjustments, use the arrows.

WARNING! Adjusting position or size is a highly dangerous operation. Selecting a value that is beyond your monitor's specification may damage it. **Press ESC to restore your original settings in case of problems.**


Device Adjustments
Screen Adjustment
Display Timing
Centering
Move the mouse over the monitor image below. Drag the desktop to the desired position while holding down the primary mouse button. Use the positioning buttons below for fine adjustments.
Note:
On certain monitors, the screen may momentarily blank during adjustment.
Default
OK
Cancel

Display Timing

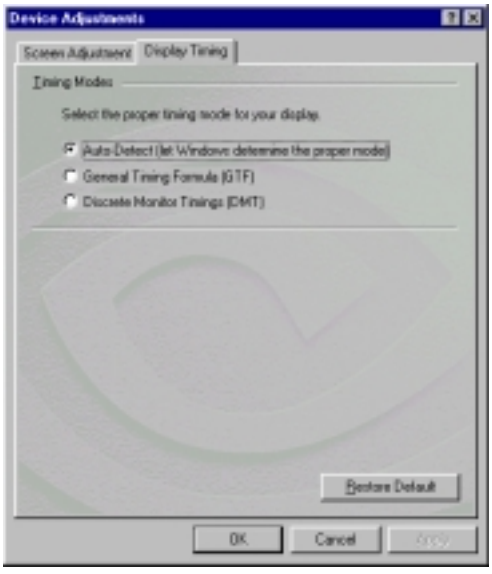
Selects the proper timing mode.

Auto-Detect allows Windows to receive the proper timing information directly from the monitor itself.

***NOTE*:** Some older monitors may not support this feature.

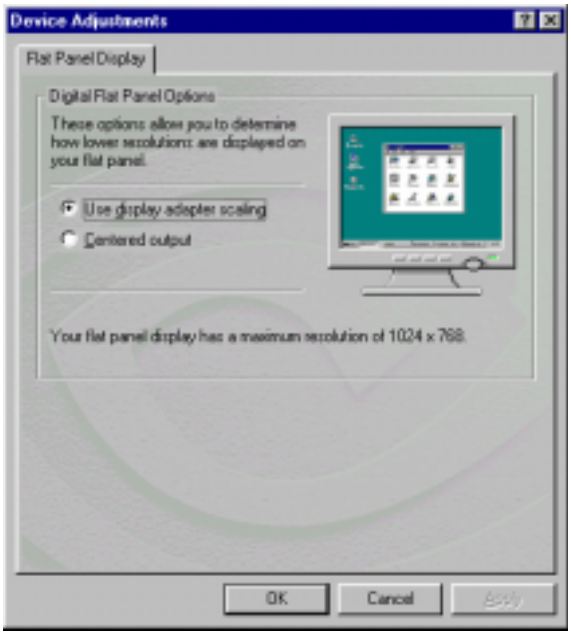
General Timing Formula (GTF)
GTF is a standard used by most new hardware.

Discrete Monitor Timings (DMT)
DMT is an older standard still in use on some hardware. Select this option if your hardware requries DMT.



Digital Flat Panel

The following options determines the placement of the image on the flat panel display when running at resolutions lower than the maximum resolution supported.


Device Adjustments
Flat Panel Display
Digital Flat Panel Options
These options allow you to determine how lower resolutions are displayed on your flat panel.
Use display adapter scaling
Centered output
Your flat panel display has a maximum resolution of 1024 x 768
OK
Cancel

Use display adapter scaling

Adapter automatically scales the appearance of the display on the monitor. (default)

Centered output

Centers the image on the flat panel and does not adjust the scale.

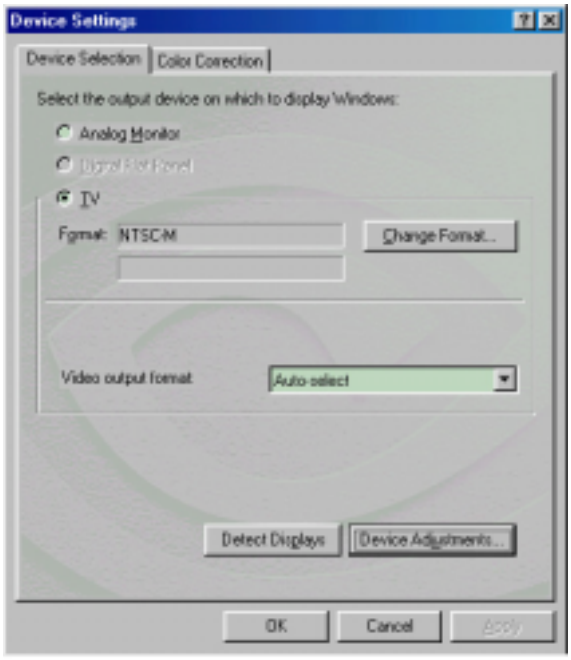
NOTE: This funciton is only available with DVI/2V1D cards.

TV

Change Format

Opens a window that specifies a particular TV output format.

NOTE: This function is only available with T/Deluxe Combo cards.



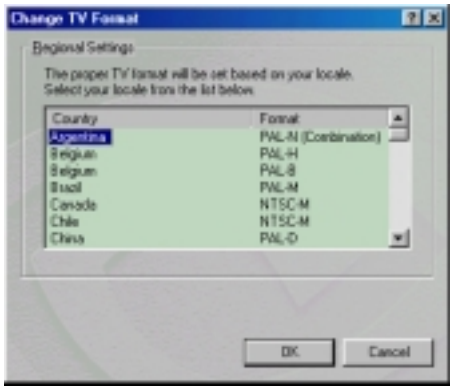
Video output format

This field specifies the type of output signal sent to the TV. If the correct connector cable is connected, **S-Video out** will generally provide a higher quality output than **Composite video out**. Specify **Auto-select** to make the system determine the output signal.

Change TV Format Window

Selects the TV/video output format based on local country standards.

NOTE: If your country is not in the list, find out which type of TV/video output format is most commonly used locally and select it; ie.: PAL-D or NTSC-M.



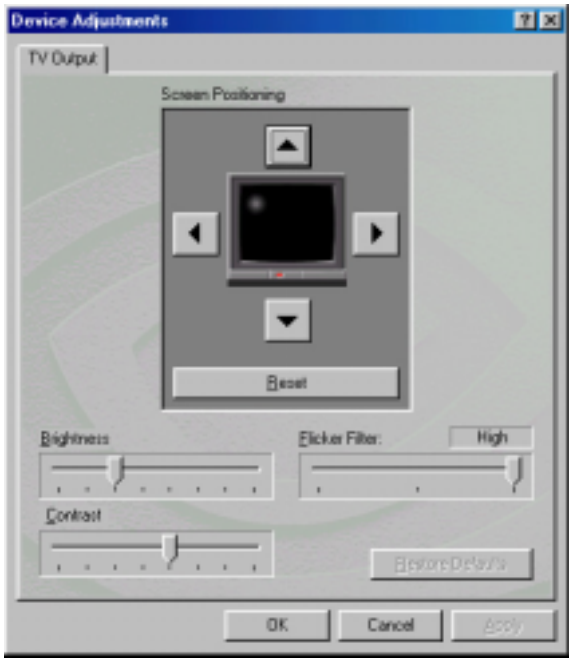
Device Adjustments

Screen Positioning

Selects the TV/video output format based on the four quadrants indicated by the arrows. **Click** on the **arrows** to reposition output on the TV monitor.

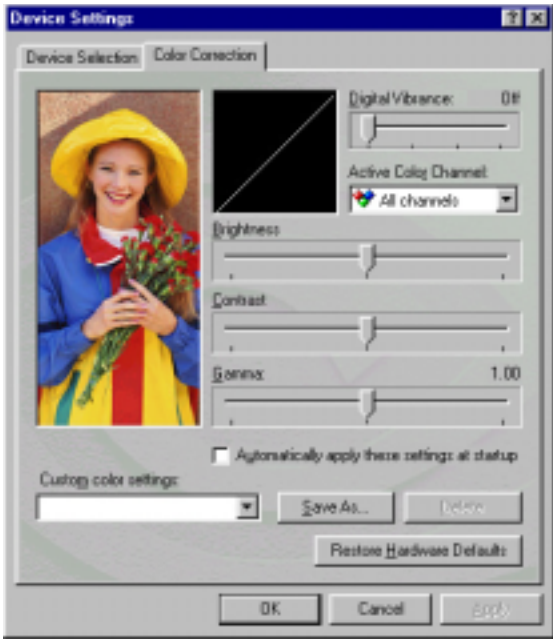
Brightness / Flicker Filter / Contrast

These sliders help calibrate the visual output of the display card. Any changes to color settings are shown immediately on the monitor.



Color Correction

This menu enables color adjustments like **brightness**, **contrast**, and **gamma** values for each or all of the RGB colors on the desktop.



Digital Vibrance

This setting controls the color separation and intensity of the Windows desktop.

***NOTE*:** Increasing the levels may result in bold, dynamic visuals with sharp and balanced colors.

Active Color Channel

This setting coordinates all channels at once (**All channels**) or allows for adjustment of individual channels (**Red**, **Green**, or **Blue**).

Brightness / Contrast / Gamma

These sliders help calibrate the visual output of the display card. Changes to color settings are shown immediately on the monitor.

Automatically apply these settings at startup

Selecting this option will automatically restore the color adjustments when Windows is restarted.

***NOTE*:** If the PC is running on a network, the color will be adjusted after you have logged on to Windows.

Custom color settings

This field lists the new settings. These settings can be used to change the appearance of many screen elements simultaneously. Create and/or save current settings, or delete unwanted settings. A setting may be created, saved and reused for special situations.

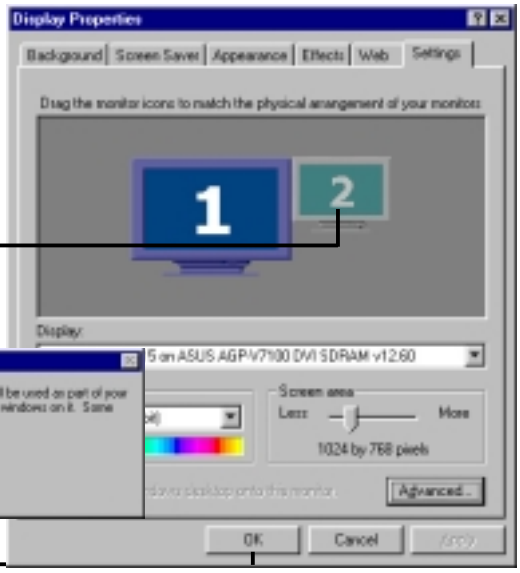
TwinView

Windows 98/ME

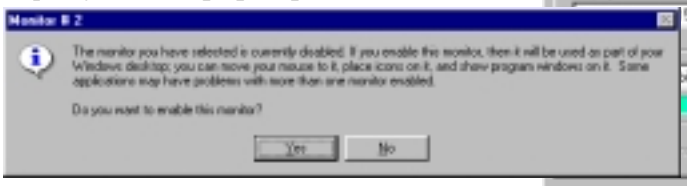
TwinView activates two separate display devices simultaneously. TwinView modes support analog monitors, digital flat panels and TVs.

Enable Extended Desktop Mode

To initiate **Extended Windows Desktop Mode**, ensure that both primary and secondary monitors are properly connected to the card. Go to **Settings tab** in **Display Properties**. **Click** on **Monitor 2**.

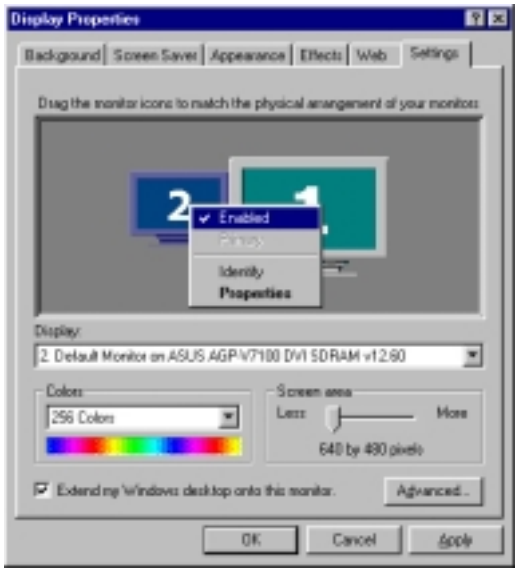


A query screen pops up. **Click** Yes:


Monitor # 2
The monitor you have selected is currently disabled. If you enable this monitor, then it will be used as part of your Windows desktop; you can move your mouse to it, place icons on it, and show program windows on it. Some applications may have problems with more than one monitor enabled.
Do you want to enable this monitor?
Yes
No

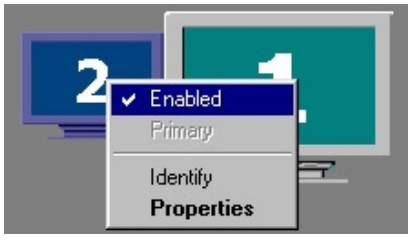
Then **click** on OK.

Return to the **Display Properties** menu. Position the secondary monitor: **Click** on **Monitor 2** and **drag** it over to any side of **Monitor 1**. Now, all Windows objects placed on the side of **Monitor 1** nearest to **Monitor 2** will appear on **Monitor 2**. **Right Clicking** on **Monitor 2** displays its **enabled** status.



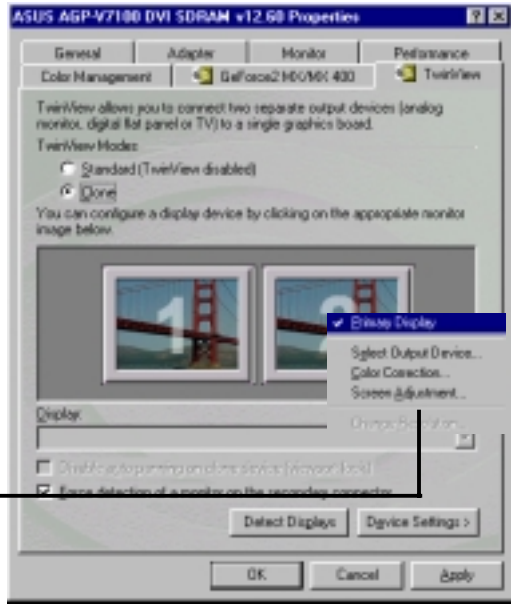
Disable Extended Desktop Mode

To disable **Extended Desktop Mode**, return to the **Settings Menu** in **Display Properties** and **right click** on **Monitor 2**. Then, **click** on the checked field, ***Extend my Windows desktop onto this monitor.*** **Click OK** and exit. Alternatively, disable the Extended Desktop by **right clicking** and deselecting the check box, **Enabled**. **Remember**: disabling **Extended Desktop Mode** is **necessary** before it is possible to enable other display modes, like **Clone Mode**.



Clone Mode

This mode duplicates the display area of the primary desktop monitor to the secondary display monitor. ***To enable*** **Clone Mode**, enter the **TwinView dialog** from the **Display Properties** and **Settings** tab: click on the **Advanced** button and the TwinView Tab. Then select **Clone**. **Click** on **OK** or **Apply**. Both display monitors now display the same image. Return to the TwinView menu to adjust the output settings of each display: **click** on either **Monitor 1** or **Monitor 2** and then enter the appropriate sub-menu:



To disable **Clone Mode**, select ***Standard (TwinView disabled)*** and **click OK**.

Display: Lists all currently available TwinView displays.

Disable auto-panning on clone device (viewport lock) fixes the position of the **virtual desktop** display. This virtual desktop display is auto-enabled in **Clone Mode**. The appearance of the virtual desktop depends on the configuration and maximum display resolution of the primary and secondary monitors. If the second monitor cannot support the current resolution, then the desktop exhibits the virtual effect: only one portion of the primary desktop will be visible on the secondary monitor. So, moving the mouse cursor to the periphery of the secondary display desktop causes the whole desktop to move around. Use **viewport lock** to fix the position of one portion of the virtual desktop on the secondary monitory. After the viewport lock is engaged, the mouse cursor may be used normally, and the virtual desktop will no longer move.

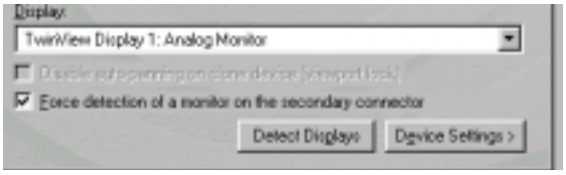
TIP: Use the cursor to position the desired quadrant of the virtual desktop on the secondary display first, and then select **viewport lock**.

Force detection of a monitor on the secondary connector: Check this box if a monitor is connected to the secondary display connecctor that is not being detected. This function is ueful for older monitors or monitors connected with BNC connectors.

Detect Displays: Click to detect all displays connected to the card.

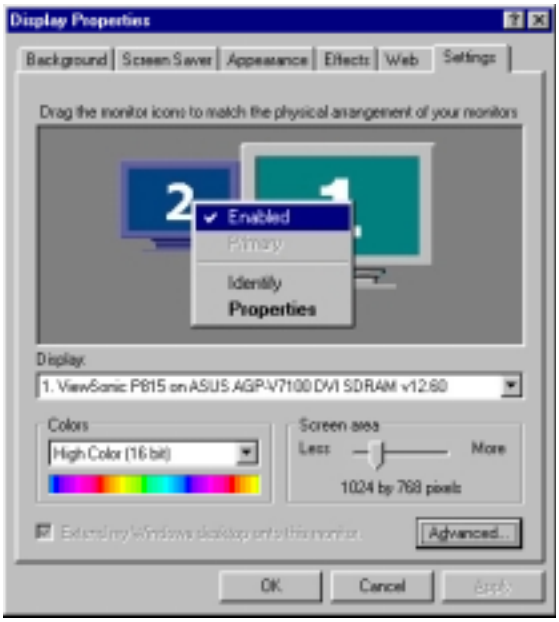
Device Settings: Click to setup or adjust device outputs.

TIP! Trouble Enabling Monitor 2 in Extended Desktop? Try activating the secondary monitor by entering the **TwinView menu** and **click** on the check box: ***Force detection of a monitor on the secondary connector***. Then **Click** the **Detect Displays** and the **Apply** button. Return to **Settings** to activate **Monitor 2**.


Display:
TwinView Display 1: Analog Monitor
Force detection of a monitor on the secondary connector
Detect Displays
Device Settings >

TwinView Tab Changes

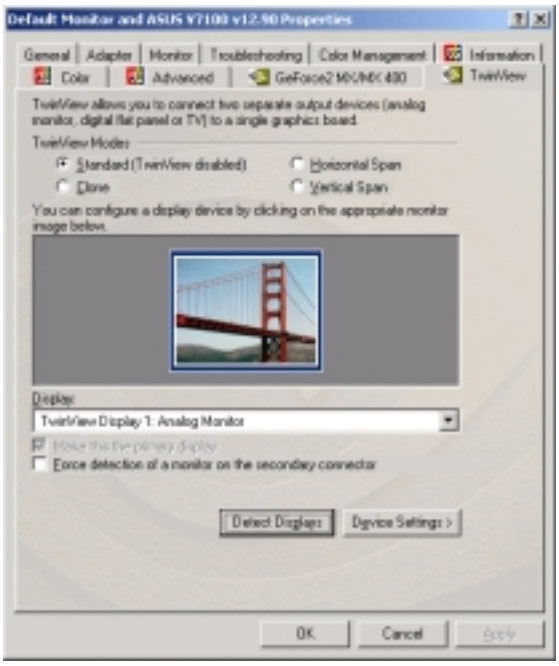
To make changes to the display screen settings of the monitors **while** TwinView Extended Desktop Mode is activated, go to the **Display Properties** Menu and **right click** on either screen icon. Click Properties to make changes. You may also click **Advanced** to view the tab dialogs.



In the Extended Desktop Mode: the **TwinView tab** in the **Advanced** tab menu is replaced by two tabs: **Device Selection** (*see* page 56) and **Color Correction** (*see* page 59). These menus display all the same options and sub-screens as available from the **Display Properties** ***Device Settings*** and from the regular **TwinView** ***Device Settings*** sub-menus.

TwinView

Windows 2000



TwinView activates two separate display devices simultaneously. TwinView supports analog monitors, digital flat panels and TVs. Enter the **TwinView dialog** from the **Display Properties** and **Settings** tab: click on the **Advanced** button and then the **TwinView tab**. **TwinView** functions in *Windows 2000* are nearly identical to *Windows 98/ME*; however, the ***Extended Desktop Mode*** is divided into two separate controls: ***Horizontal Span*** and ***Vertical Span*** due to limitations of the operating system.

NOTE: Changing TwinView modes is only possible from the Twin View tab.

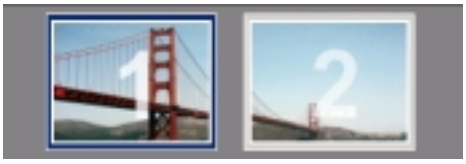
Standard (TwinView disabled)

Displays the standard, single device mode. Use this mode if you have only one display device attached to your ASUS graphics adapter.

Clone Mode

This mode duplicates the display area of the primary desktop monitor to the secondary display monitor.

Horizontal Span Mode



This mode horizontally extends the Windows desktop across two display devices. This mode is useful for viewing items wider than a single display.

Vertical Span Mode

This mode vertically extends the Windows desktop across two display devices. This mode is useful for viewing items taller than a single display.

Display: Lists all currently available TwinView displays. In all modes except **Standard**, use this field to select the current display.

Make this the primary display: Use this option to select the primary display. The control switches between displays; the primary display occupies the top left corner of the display. After switching, the monitors swap positions.

Force detection of a monitor on the secondary connector: Check this box if a monitor connected to the secondary display is not being detected. This function is useful for older monitors or displays connected with BNC connectors.

GeForce2 MX

The **GeForce2 MX** tab displays information about the graphics card, computer system and driver versions; it also accesses extra features and supplies an Internet link for drivers, product updates and news.

Additional Properties

Click on the Additional Properties button to enter five submenus to configure the various functions of this card.

3D Antialiasing Settings

Antialiasing is a technique used to minimize the rough rendering of artifacts, eliminating the "staircase" or "jagged effect" seen along the edges of 3D objects. These controls select the degree to which antialiasing is used in **Direct3D** and **OpenGL** applications.

Allow applications to control the antialiasing mode:
Some 3D applications that support antialiasing automatically optimize control of this mode; it is possible to select the antialiasing mode manually.

Manually Select Antialiasing Mode

Off (no antialiasing): Disables antialiasing in 3D applications. Select Off if you require maximum speed performance in your applications.

2x: Enables antialiasing using the 2x mode. Select this for improved image quality and high performance in 3D applications.

4x: Enables the antialiasing using the 4x mode. Select this for the highest possible image quality at the expense of some performance drain in 3D applications.

Direct3D Settings

Performance and Compatibility Options

Enable fog table emulation

Some older games do not query D3D hardware capabilities correctly and so expect table fog support. Choosing this option will ensure that such games will run properly.

Adjust Z-buffer depth to rendering depth if unequal

This option forces the hardware to automatically adjust the depth of its Z-buffer to the precise depth that the application requests. Keep this option enabled, unless the work absolutely requires a specific Z-buffer depth.

Enable alternate depth buffering technique

This option lets the hardware use a different mechanism for depth buffering in 16-bit applications. Enabling this setting can produce higher quality rendering of 3D images.

Display logo when running Direct3D applications

This option lets you display the NVDIA logo in the lower corner of the screen while running Direct3D applications.

Mipmapping

Mipmap detail level

This option lets you adjust the Level of Detail (LOD) bias for mipmaps. A lower bias provides better image quality while a higher bias augments performance. Choose from five preset bias levels.

PCI Texture Memory Size

***NOTE*:** This setting applies only to PCI display adapters or to AGP display adapters running in PCI compatibility mode.

This option sets the amount of system memory for texture storage. Clicking the "up arrow" increases memory size while clicking the "down arrow" decreases the size of system memory used for textures. The maximum amount of system memory for texture storage depends on the amount of physical memory installed on the system.

Custom Direct3D settings

This option lets you create or delete custom settings or "tweaks" you have saved.

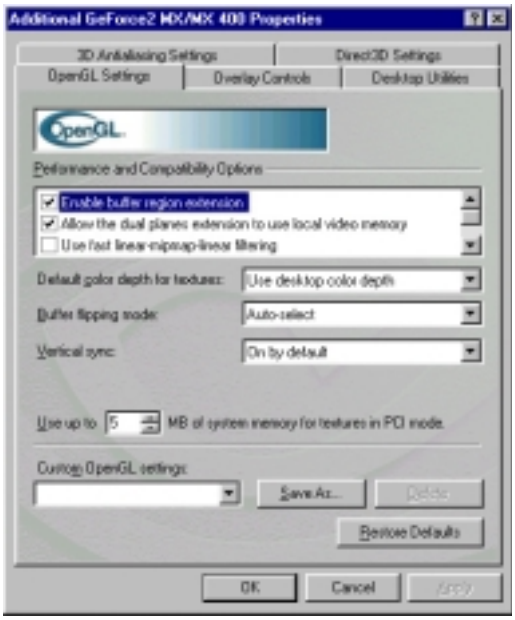
More Direct3D

Texel Alignment

These values define the position of texel origin. The default values conform to the Direct3D specifications. Some software may expect texel origin to be defined elsewhere. The image quality of such applications will improve if the texel origin is redefined. Dragging the slider leftward positions the texel origin closer to its upper left corner and moving the slider rightward positions it closer to the center.

Range: **0 to 7, default: 3.**

OpenGl Settings



Performance and Compatibility Options

Enable buffer region extension

This option permits the drivers to apply the OpenGL extension: GL_KTX_buffer_region.

Allow the dual planes extension to use local video memory

This option permits the use of local video memory when the GL_KTX_buffer_region extension is enabled.

Use fast linear-mipmap-linear filtering

This option permits increased application performance at the expense of some image quality loss. In many cases, the loss of image quality may not be noticeable.

Enable anisotropic filtering

This option allows OpenGL to use anisotropic filtering for improved image quality.

Disable support for enhanced CPU instruction sets

This option disables driver support for enhanced 3D instruction sets by certain CPUs.

Default color depth for textures

This option determines whether textures of a specific color depth should be used by default in OpenGL applications. **Options** are: **Use desktop color depth (default), Always use 16 bpp, and Always use 32 bpp**.

Buffer flipping mode

This setting determines the buffer flipping mode for full-screen OpenGL applications. **Options** are: **Auto-select (default), Use block transfer,** and **Use page flip**.

Vertical sync

This setting specifies how vertical sync is handled in GL. **Options** are: **Always off, Off by default,** and **On by default (default).**

Use up to x MB of system memory for textures in PCI mode

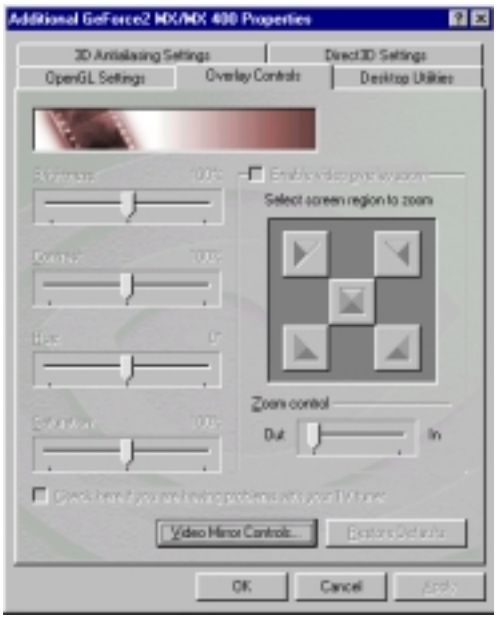
This option sets the amount of system memory for texture storage. Clicking the up arrow increases the memory size while clicking the down arrow decreases the size of system memory for textures. The maximum amount of system memory for texture storage depends on the physical memory installed on your system.

***NOTE*:** This setting applies only to PCI display adapters or to AGP display adapters running in PCI compatibility mode.

Custom OpenGL settings

This option lets you create or delete custom settings or “tweaks” you have saved.

Overlay Controls



Brightness / Contrast / Hue / Saturation

Four sliders calibrate the brightness, contrast, hue, and saturation output of the card. Use this to adjust the quality of video or DVD playback on your monitor. Dragging a slider to the left decreases the level; moving to the right increases the level. The number at the right of each slider displays the brightness scale.

Range: **0% to 200%, default: 100%); Contrast (0 to 200%, default: 100%); Hue (-180º to 180º, default: 0º),** and **Saturation value (0% to 200%, default: 100%).**

Enable video overlay zoom

This option enables the zoom controls to allow you to zoom in on a specific area of the video output screen.

***NOTE*:** (when enabling overlay zoom)**:** Video players that are not able to detect the presence of Video Mirror may not update the zoom factor immediately while displaying a still frame.

Select screen region to zoom

This option lets you select the region on the video playback to zoom in or out.

Zoom control

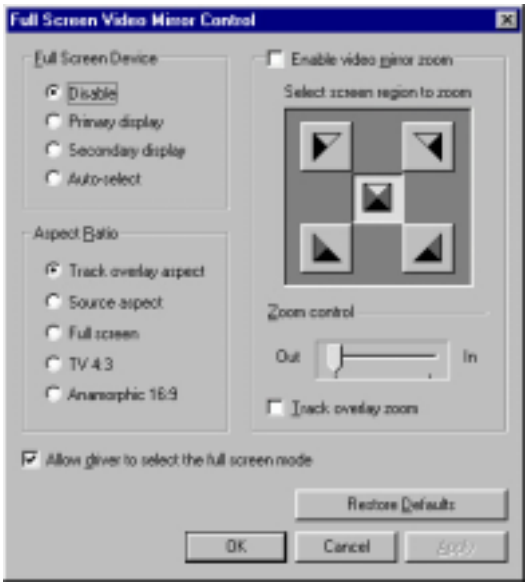
This option lets you zoom in or out on the selected portion of the video playback screen.

Check here if you are having problems with your TV tuner

This option, when selected, forces the overlay software to use busmastering. It is recommended that you leave this option cleared unless you experience problems with video playback, such as image corruption or no video image at all.

***NOTE*:** You can only access Overlay Controls while you are playing back videos, for example, .AVI files or DVD movies on your computer.

Video Mirror Controls



Video Mirror is a TwinView feature that makes a **video** or **DVD player** to mirror playback in full-screen mode on any connected display devices. Video Mirror makes video data displayed on an **overlay window** on the primary display to project as a **full-screen** on the **secondary display**.

NOTE: **Video Mirror** is available in **Clone** or **Extended Desktop Mode**.

Enable Video Mirror Zoom

This option permits zooming into a quadrant of the video data on the full-screen mirror. Select the quadrant and move the slider to zoom in and out.

Track overlay zoom

Enabling Track overlay zoom disables the Video Mirror Zoom settings. Normally these two settings are independent.

NOTE: Video players that are not able to detect the presence of Video Mirror may not update the zoom factor immediately while displaying a still frame.

Full Screen Device

These fields control the Video Mirror. **Options: Disable** turns off **Video Mirror**. **Auto-select** is used in combination with the mouse to drag the overlay window onto the secondary display; this causes the display to swap, and the overlay window now appears on the secondary display, and the full screen appears on the primary display. (In **Clone** mode, choosing **Auto-select** is equivalent to selecting **Secondary Display**.)

***NOTE*:** After selecting your **Full Screen Device** settings, you may need to exit and restart your video application for the settings to take effect.

Aspect Ratio

The aspect ratio is an expression of the width-to-height measure of a video display. The aspect ratio may be adjusted. **Options: Track overlay aspect** (*default; recommended setting*) matches the aspect ratio of the Video Mirror with that of the overlay. **Source aspect** equalizes the aspect ratio of the Video Mirror to the aspect of the source video, assuming the pixels are square. **Full screen** stretches the video boundaries of the Video Mirror device. **TV 4:3** changes the Video Mirror aspect ratio to standard TV dimensions, 4:3. **Anamorphic 16:9** changes the Video Mirror aspect ratio to a wide-screen aspect of 16:9.

Allow driver to select the full screen mode

Enabling this instructs Video Mirror driver to select the optimal display mode for the full screen device. If disabled, Video Mirror uses the current desktop mode on the display device.

Apply

After changing any Full Screen option, click **Apply** for the changes to take effect.

Desktop Utilities

Additional GeForce2 MX/MX 400 Properties
3D Antialiasing Settings
Direct3D Settings
OpenGL Settings
Overlay Controls
Desktop Utilities
NVIDIA
The "QuickTweak" taskbar utility lets you conveniently access various features and presets you've configured in the Display Properties directly from the Windows taskbar.
Display the QuickTweak icon in the taskbar
Select taskbar icon:
NVIDIA Logo
The Desktop Manager provides enhanced TwinView multi-display functionality, and helps you organize your applications for use with multiple displays.
Enable Desktop Manager
Desktop Manager Configuration...
Restore Defaults
OK
Cancel
Apply

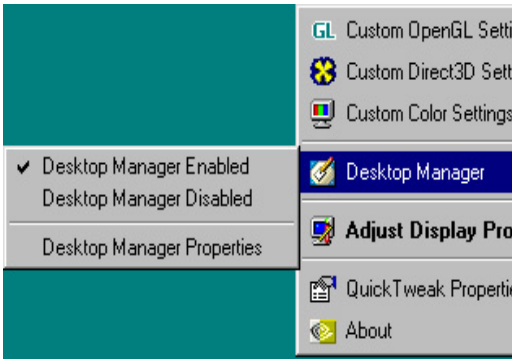
Display the Quick Tweak icon in the taskbar

This option **adds** the NVIDIA Quick Tweak icon to the Windows **taskbar**.

NOTE: In the **TwinView Extended Desktop** mode, an **extra check box and a button** appears on the Desktop Utilities dialog: **Enable Desktop Manager** and **Desktop Manager Configuration.** Click this button to access the ***Desktop Display Manager*** setup menus.

Using the Quick Tweak icon

Right click the **NVIDIA taskbar icon** to display a **popup menu** of options, including OpenGL, Direct3D or Color settings. The menu also contains items for restoring default settings. **Left click** on the icon twice, and the **Display Properties Menu** appears.



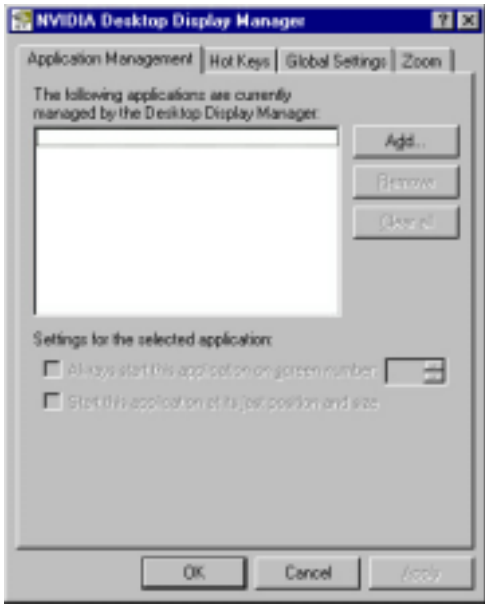
NOTE: An additional option appears on the popup menu to access the ***Desktop Display Manager*** setup menus.

Desktop Display Manager

In the TwinView Extended Desktop Mode, this Display Manager sets up the PC to run one or more programs on one or both monitors or desktops. Among others, it also allows you to undertake program-management features, such as restoring application windows to their last-used position.

Setting Up Desktop Display Manager Properties

Make sure the applications the are going to run using the Desktop Display Manager are already open.To set **Display Manager** properties, check the box, **Enable Display Manager** and click the **Desktop Manager Configuration** button. The Desktop Display Manager dialog box opens.

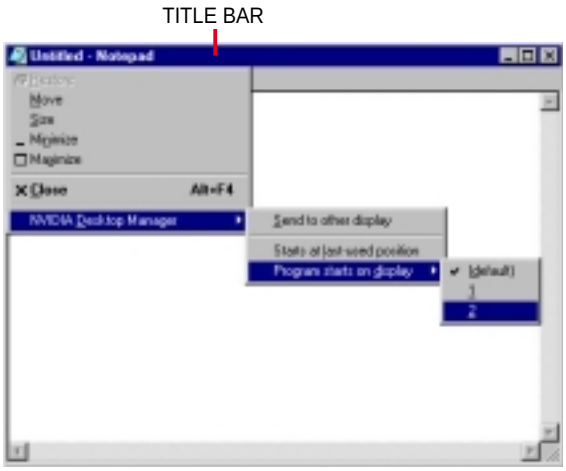


Application Management

Application Management adds program applications to Desktop Display Manager. Click the **Add** button on the **Application Management** tab. Program applications currently open appear in the **New Application** box. Select the program you want to add, then click **OK**. The program appears in the **Application Management** window. Repeat this step for each program that you want to add to the Desktop Display Manager.

A variety of settings are available in **Desktop Display Manager**. Check: **Always start this application on screen number** selects the display or monitor to use when starting up the program. Check: **Start this application at its last position and size** restarts the program at its last position and sizes it to the same size as it was when last closed.

To display the **Desktop Display Manager** menu from any program application that has been added, **right-click** the title bar of the open program. (The title bar is a horizontal bar at the top of a window that shows the name of the document or program.)



Hot Keys

Hot Keys may be configured with different key combinations and assign them to actions like: **moving** active windows to another monitor, or moving open windows to a separate monitor. Default key combinations for each action are:

Move the active window to another monitor: ALT + 1

Move all windows to another monitor: ALT + 2

Gather all windows to one monitor: ALT + 3

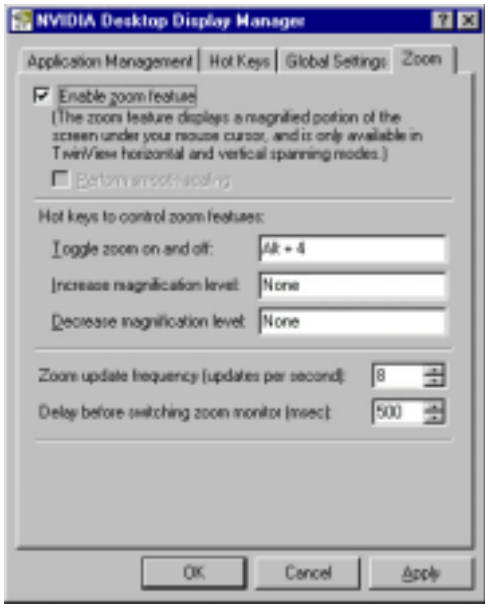
NVIDIA Desktop Display Manager
Application Management
Hot Keys
Global Settings
Zoom
To set a hot key for a particular action, press the key or key combination you wish to assign while in any one of the fields below.
To clear a hot key setting, simply press <Del> or <Backspace> while in a field.
Action:
Move the active window to another monitor
Key combination:
Alt + 1
Action:
Move all windows to another monitor
Key combination:
Alt + 2
Action:
Gather all windows to one monitor
Key combination:
Alt + 3
OK
Cancel
Apply

Global Settings

This field specifies settings that apply to all applications running under **Desktop Display Manager**.

Zoom

This feature enables a magnified view of a screen region under and around the mouse cursor. The zoomed view appears on the monitor on which the mouse is *not* pointing.



Enable zoom feature

This control turns **on** the **zoom** function. The default setting is selected.

Hot keys to control zoom features

This feature specifies hot key combinations other than the defaults listed on the previous page. Press any valid key, including the **F# function** keys. Keys unavaliable for hotkeys are: ESC, ENTER, TAB, SPACEBAR, PRINT SCREEN, or BACKSPACE.

Zoom update frequency (updates per second)

This setting updates the "refresh" frequency of the magnified view in number of times per seconds (*default:* **8**; it can be set from **1** to **100** times per second). Normally, the magnified view is updated whenever the mouse cursor is moved and is updated at a fixed interval when the mouse cursor is still.

Delay before switching zoom monitor (msec)

This field controls the time delay in milleseconds (*default:* **500**; it can be set from **0** to **1000 milleseconds**) before the zoomed view switches monitors when you move your mouse cursor from one monitor to the other. Change the setting to ***0*** for instant switching of zoom windows.

(This page was intentionally left blank.)

Using the ASUS Utilities

ASUS Tweak Utility

WARNING! Use the ASUS Tweak Utility with extreme caution and only if you are well acquainted with your display card. Using this inappropriately may damage your card, its components, and your system.

To run the ASUS Tweak Utility, click **Start** and point to **Programs**, **Asus**, **Tweaking Utilities**, and then click **Tweak**.

Timing Adjustment

Timing Adjustment lets you adjust the working frequency of the graphic engine and video memory.

Use tweak settings on next startup

Selecting this allows you to use your settings when Windows starts.

Graphics Speed

Engine

Lets you adjust the working frequency of the graphic engine

Memory

Lets you adjust the working frequency of the video memory.

Load default

Restores the settings to their defaults.

2D Test

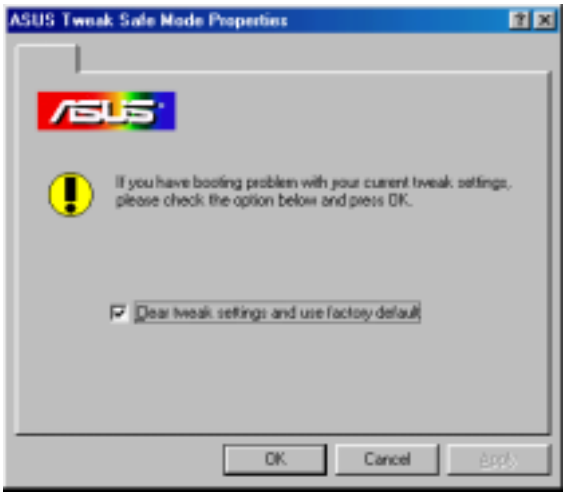
Lets you test your settings.

Tweak Safe Mode Recovery

Timing Adjustment (Safe Mode) lets you restore the working frequency of the graphic engine and video memory to their factory default settings. This mode is used when you encounter problems when starting or restarting Windows using your customized tweak settings.

Using Tweak Safe Mode Recovery

1. Restart Windows in safe mode. To start Windows in safe mode, hold the F8 key until the Windows Startup Menu appears. For some machines and Windows 98, you can use CTRL to bring up the Startup Menu. Enter the number for **Safe mode** and then press ENTER.
2. In Windows, click **Start** and point to **Programs**, **Asus**, **Tweak Utility**, and then click **Tweak Safe Mode Recovery**.
3. The **ASUS Tweak Safe Mode Properties** box appears. Click the appropriate settings.


ASUS Tweak Safe Mode Properties
If you have booting problem with your current tweak settings, please check the option below and press OK.
Clear tweak settings and use factory default
OK
Cancel
Apply

Timing Adjustment (Safe Mode)

Select the **Clear tweak settings and use factory default** box to change back the timing adjustment settings to their factory defaults and then click **OK** to restart Windows properly.

4. Software Reference

ASUS VideoSecurity

Windows 98 Only

NOTE: The ASUS VideoSecurity utility can only be used with models with Video-In/TV-Out.

ASUS VideoSecurity lets you detect intruders into your system and environmental changes and monitor a specified location or any incoming visitor. If VideoSecurity detects any deviation from the norm that you set, it may give an error message or not. Regardless of any messages, VideoSecurity will record:

- Any information about the monitored activity and then store these to an event log file. If you have already installed Microsoft Access 97 or later, you may use these event log data and export it as an Access database for further data management and processing.
- The last two detected snapshot image files from the video captured stream (stored as bitmap format). Any image processing or editing software can then be used to view, modify, or distribute them.

Limitations

Because of differences in hardware sensitivity, VideoSecurity may not completely detect all possible errors. Before you execute VideoSecurity, there are some limitations you have to understand so that you can appropriately use it.

- Due to changing temperatures, the captured image of some CCDs will be twisted, which may give a wrong detection.
- If the features (e.g., color, luminance) of the object are similar to that of background, the object may not be detected clearly.
- The CCD cannot capture the object smoothly and immediately when an object moves too fast.

VideoSecurity is designed for the widest environments possible and error conditions, therefore it is necessary to tune the parameters in VideoSecurity Setup Wizard to get the best detection results.

Setup Wizard

Setup Wizard guides you through setting up the VideoSecurity features.

1. To open Setup Wizard, click the **Start** button, and then point to **Programs**, **ASUS Video Security**, and then click **Setup Wizard**. The **Video Security Setup Wizard** dialog box appears.

4. Software Reference

NOTE: The following descriptions are only for selected features of the ASUS VideoSecurity utility. For a full description of the features described in this manual and other features, refer to the ASUS VideoSecurity Online Help (HTML) format included with your support CD. You may also click the **Help** button to open the online help file.

Main Window

VideoSecurity Running Style

- **Normal Window** is the default style, that is, VideoSecurity will function as a standard Windows program.
- **Always on Top** is like a Normal Window except that the main window and control panel is shown always on top of other programs or utilities. You may right click to enable or disable this function at the main window anytime.
- **Minimize on Tray** lets you hide the main VideoSecurity window. This is useful when you don't want anyone to know you are monitoring. When this option is selected, the VideoSecurity icon will appear on the taskbar in the lower-right corner of your screen. Whenever VideoSecurity detects a problem, it will run. You may also run VideoSecurity by clicking the icon.

VideoSecurity Working Directory

The **VideoSecurity Working Directory** is the folder where the utility stores its temporary working and log files. Default is C:\VIDEOSEC. The directory is user-configurable. When VideoSecurity is ran, a sub-directory will automatically be created under the main directory, using the current date and time as the folder name, for example, "1999.11.30_12.30.20" means that VideoSecurity was started on 30 November 1999 at 12:30:20 PM.

IMPORTANT: Do not change the working folder's name while VideoSecurity is running. Otherwise, a fatal runtime error will occur.

VideoSecurity Detecting Region

Detects all visible area when watchdog function is on

This sets the scan rate. Default is *2 frames*/sec. The higher the scan rate, the more accurate is the detection. Higher rates, however, entails a higher CPU usage. Do not use a high rate when you plan to use VideoSecurity while using other applications.

Detects only the area defined by the user when watchdog function is on. Feature will take effect only when VideoSecurity runs the next time

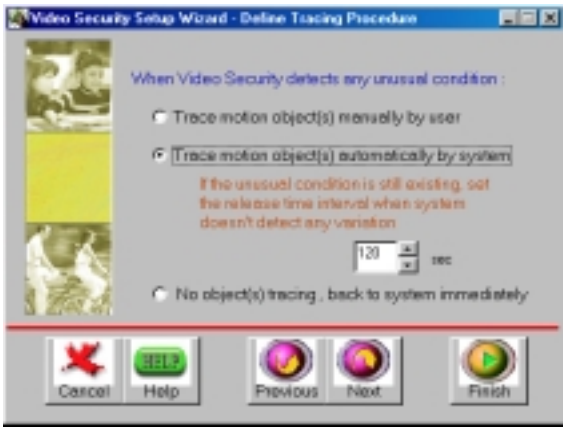
Sensibility

Currently, only one option is available to set the image format

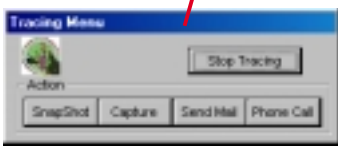
This is an important parameter when setting up VideoSecurity. Your environment may change often but VideoSecurity is concerned only when there is a change in the environment. Make sure that you select a suitable sensitivity for your environment.

Define Tracing Procedure

VideoSecurity not only detects errors or problems in your card but also monitors or detects an intrusion.


Video Security Setup Wizard - Define Tracing Procedure
When Video Security detects any unusual condition :
Trace motion object(s) manually by user
Trace motion object(s) automatically by system
If the unusual condition is still existing, set the release time interval when system doesn't detect any variation
120
sec
No object(s) tracing , back to system immediately
Cancel
Help
Previous
Next
Finish

Use this to stop tracing or to choose the error processing method to use while tracing. This box appears when an error occurs.



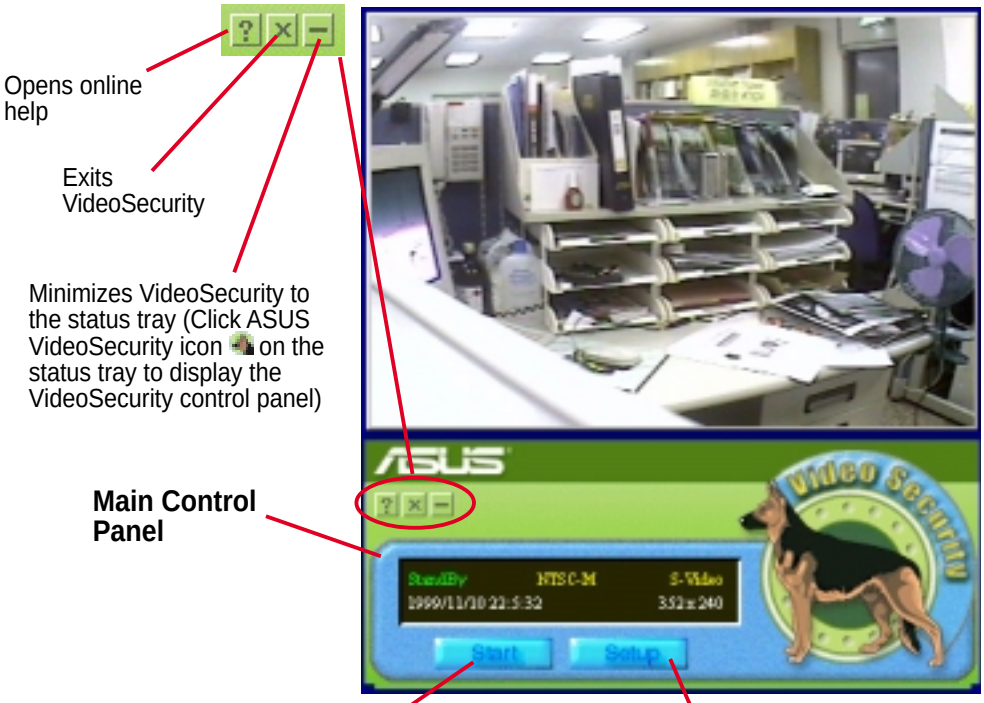
Error Processing Procedure

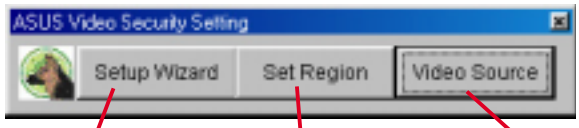
Video Security Setup Wizard - Error Processing Procedure
Define error processing procedure :
Capture the following video data to an AVI File
Send an warning E-Mail to the specified user(s)
Make a phone call to the specified user
Execute a specified program
Cancel
Help
Previous
Next
Finish

Stop Detecting Setting

Video Security Setup Wizard - Stop Detecting Setting
When Video Security finishes all error processing procedure
Stop Video Security immediately
Never stop , until user press <Stop>
Stop when error amount is in excess of
50
Enable Event Log Management (use MS ACCESS)
(You need to install Microsoft ACCESS and MDAC to run this)
Cancel
Help
Previous
Next
Finish

Running ASUS VideoSecurity


Opens online help
Exits VideoSecurity
Minimizes VideoSecurity to the status tray (Click ASUS VideoSecurity icon on the status tray to display the VideoSecurity control panel)
Main Control Panel
Click to start detecting
Click to open the VideoSecurity Setting dialog box



Starts the Setup Wizard

Lets you define a region with which VideoSecurity will monitor for errors or intrusion.

Lets you adjust the video source parameters, such as **Color**, **Video Connector**, and **Video Standard**

Shortcut Keys

ESC	Exits VideoSecurity
F1	Opens Online help
F2	Toggles VideoSecurity / Stop Watchdog function
F3	Opens Setup menu
F4	Shows error log box

ASUS Live Video

NOTES

1. ASUS Live Video can only be used with models with a Video Decoder (Deluxe Combo) and monitors or monitor drivers that are designed for I2C bus control.
2. ASUS Live Video supports Windows 9x/ME, Windows NT 4.0, and Windows 2000. For Windows NT/2000, however, the ASUS capture driver for NT/2000 must be installed first before opening ASUS Live Video (*see* **Install Video for Windows Capture Driver** earlier in **3. Software Setup**).
3. With a Deluxe Combo graphics card, ASUS Live Video only supports **Extended Desktop** mode if **TwinView** is enabled.

ASUS Live Video can be used to:

1. View images using your monitor as screen from traditional consumer devices, such as videocassette players, camcorders, digital cameras, and laser disc players through the onboard RCA or SVHS VIDEO-IN connectors.
2. Capture live motion video up to 30 frames/second (minimum system requirement: Pentium II/266).

NOTE: You should already have installed DirectX 7 or later to use ASUS Live (*see* **3. Software Setup | Install DirectX**)

Running ASUS Live Video

To run the utility, click **Start** and point to **Programs** and then **ASUS Live** and then click **ASUS Live**.

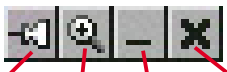
You may also run ASUS Live by clicking or right-clicking the ASUS Control Panel icon (*see* **4. Software Reference | ASUS Control Panel**) on the taskbar's status area to display the ASUS Control Panel, pointing to **ASUS Live Video**, and then clicking it.

Uninstalling ASUS Live Video

To uninstall the software, click **Start** and point to **Programs** and then **ASUS Live** and then click **Uninstall**. You may also uninstall the software using the **Add/Remove Programs Properties** dialog box at the **Windows Setup** tab. *See* Windows online help for more information on removing a Windows component.

ASUS Live Control Panel

Live Mode
(Click **Capture** to switch to Capture Mode)



Keep ASUS Live Always On Top

Zoom In/Out ASUS Live Control Panel

Minimize ASUS Live Control Panel to taskbar

Exit

Click the preferred video connection (Composite, S-Video, TV Tuner) to change a current connection.

Click here to change the video standard (*NTSC-M*, *NTSC-N*, *NTSC-4.43*, *PAL-BGHI*, *PAL-4.43, PAL-M*, *PAL-N* or *SECAM*)

Click here to open the ASUS Live Pre-Recording Setting dialog box.

Click here to change the window size for viewing [*160 x 120*, *176 x 120*, *340 x 240*, *352 x 240* (default), *640 x 480*, *720 x 480* or *Full Screen*].

Opens the **About ASUS Live** (ASUS Live and Capture Driver version number) window

Shows/hides the **Video Source Option (F9)** (*see next page*)

Opens a drop-down box to let you set **Video Format**, **Video Source**, **Tuner Setting**, and **Tuner Edit**

Capture Mode
(Click **Live** to switch to Live Mode)

Click here to change the **video standard** (*NTSC-M*, *NTSC-N*, *NTSC-4.43*, *PAL-BGHI*, *PAL-4.43, PAL-M*, *PAL-N* or *SECAM*)

Click the preferred video connection (Composite, S-Video, TV Tuner) to change a current connection.

Opens the ASUS Video Format dialog box to change the capture **Image Dimensions** [*88 x 60*, *176 x 120*, *352 x 240* (default), *704 x 240*, *704 x 480*, *160 x 120*, *320 x 240*, *640 x 240*, *640 x 480* or *Full Screen*], **Image Format** [*8 bit Palettized*, *16 bit RGB*, *24 bit RGB*, *UYVY*, and *ASUS Video 2.0* (default)], and/or **ASV2 Settings (Quality Level)** [*0 - Best Compression*, *1*, *2*, *3* (default), *4*, *5 - Normal Quality*, *6*, *7*, *8*, *9 - Best Quality*].

Click here to open the ASUS Live Pre-Recording Setting dialog box.

Click an image to view it with the associated image viewer or application (a pop-up window opens to show the path and filename of the selected image). Right-click an image to **View**, **Save As**, and **Delete** that image.

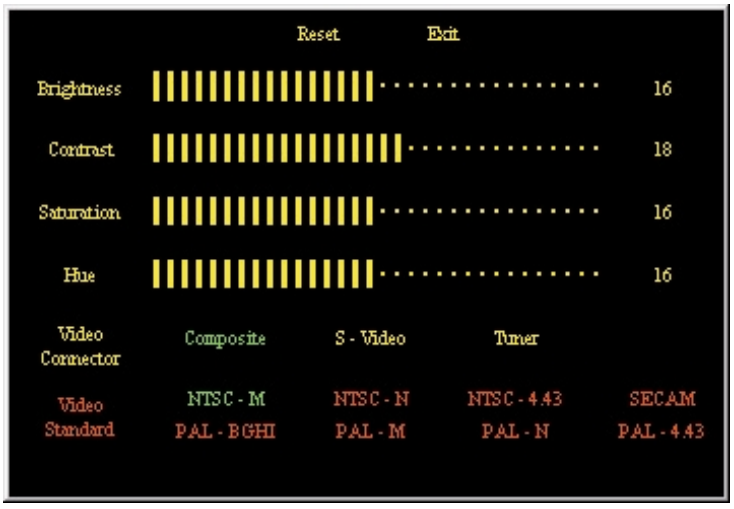
Opens a drop-down box to let you set capture format size, video compression, pre-recording settings, among others

Always On Top

The **Always On Top** option is provided for users who may wish to continue watching VCD/DVD/TV programs or want to have the display screen visible while doing other tasks, such as when downloading files from the Internet or word processing. To keep your display screen always on top of other programs, right-click the display screen and then click **Always On Top**. Position the screen where it will not interfere with your other tasks.

Video Source Option

When first using ASUS Live, you must set up the video source. By clicking the **Video Source Option (F9)** button (*hotkey:* F9) on the ASUS Live Control Panel, you can show or hide the video source setup screen.



Use your mouse/pointing device or the Up or Down Buttons on the ASUS Live Control Panel or the UP and DOWN arrow keys on your keyboard to select Video Connector and then the Left and Right Buttons or the LEFT and RIGHT arrow keys to set your video connection (*Composite*, *S-Video*, or *Tuner*) or video standard [*NTSC-M*, *NTSC-N* (not supported under Windows 2000/NT 4.0), *NTSC-4.43*, *PAL-BGHI*, *PAL-M*, *PAL-N*, *PAL-4.43* or *SECAM*]. Click or select **Reset** to set the settings back to its default. Click or select **Exit** to close the Video Source Option window.

NOTES

1. Users of the PAL D/K models should select PAL-BGHI for the Video Standard.
2. NTSC-N is not supported under Windows 2000/NT 4.0.

If desired, you may adjust the Brightness, Contrast, Saturation, and Hue of your display by using the video source setup screen. Use the Up or Down Buttons on the ASUS Live Control Panel or the UP and DOWN arrow keys on your keyboard to select the desired option and then the Left and Right Buttons or the LEFT and RIGHT arrow keys to make the desired adjustments.

Click again the **Video Source Option (F9)** button on the ASUS Live Control Panel to exit from the video source option screen.

ASUS Live Video Modes

ASUS Live Mode has two execution modes, namely, **Live Mode** and **Capture Mode**.

Live Mode

Live Mode lets you view live video. Under this mode, you may adjust the display screen size with your mouse, or view in full-screen mode, or set live video as wallpaper to display it.

To change video source settings, click the **Setup** button on the ASUS Live Control Panel.

NOTES

1. Currently, Live Mode does not work under Windows NT 4.0. Live Mode requires at least Direct Draw 6, which Windows NT 4.0 does not support.
2. Before using the **Wall Paper** option, make sure that the **View as Web Page** option of the Active Desktop setting is not selected (*see* **Start – Settings – Active Desktop – View as Web Page**).

Capture Mode

Capture Mode lets you capture and store images into your computer. It has three capture options: **SnapShot**, **Frame Recording**, and **Video Recording**. Video Recording adds an auto-timer recording function that allows you to schedule your video recording (*see* **Auto Video Recording Setting** later in this section).

Captured images are shown on the Preview Files window of the ASUS Live Control Panel. Click an image to view it with the associated image viewer or application (a pop-up window opens to show the path and filename of the selected image). Right-click an image to **View**, **Save As**, and **Delete** that image.

To change video capture settings, click the **Setup** button on the ASUS Live Control Panel.

Video Capture

IMPORTANT: It is the intent of ASUS that this product be used in full compliance with the copyright laws of your respective and other countries and that prior permission be obtained from copyright owners whenever necessary.

Windows 98

When you install the Windows 98 Driver of your ASUS graphics card (only models with the VIDEO-IN connector), the video capture driver will automatically be installed on your system. This video capture driver follows Microsoft Video for Windows standard and can open **up to a capture window size of 704 x 480**. It can be used with some applications that use video capture as an option, such as video conferencing, net meeting, or digital video authoring applications.

IMPORTANT: You must enable the DMA transfer mode of your hard disk (EIDE HD) to get the maximum data transfer capability (**704 x 480, 30 frames/second**) during the video capture process. Otherwise, your system may become unstable.

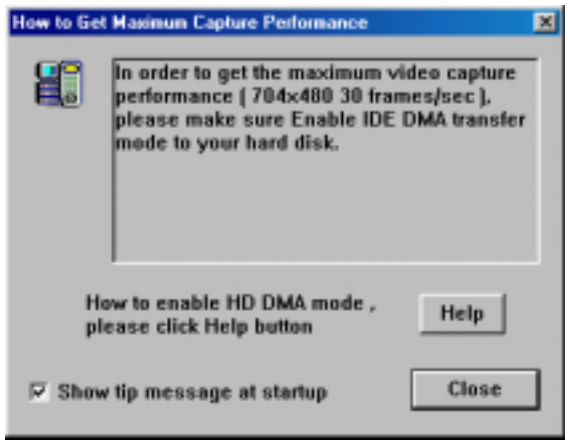
Windows 2000/NT 4.0

The video capture driver for Windows 2000/NT 4.0 is not automatically installed when you install the display drivers of your ASUS graphics card.

To install, insert the CD installation disc into your CD-ROM drive, click **Drivers**, and then click **Install Video for Windows Capture Driver** (*see* **3. Software Setup | Install Video for Windows Capture Driver**).

Enabling DMA Transfer Mode

NOTE: The **How to Get Maximum Capture Performance** dialog box will tell you how to enable your hard disk's DMA transfer mode to get the best capture performance. Simply follow the on-screen instructions to enable DMA mode. Otherwise, do the following:


How to Get Maximum Capture Performance
In order to get the maximum video capture performance (704x480 30 frames/sec), please make sure Enable IDE DMA transfer mode to your hard disk.
How to enable HD DMA mode , please click Help button
Help
Show tip message at startup
Close

1. Click **Start**, point to **Settings**, and then click **Control Panel**.
2. Double-click the **System** icon. The **System Properties** dialog box appears.
3. Click the **Device Manager** tab and then click the plus sign next to **Disk drives**, and then double-click your hard disk. The hard disk's **Properties** box appears.
4. Click the **Settings** tab and then select the **DMA** check box under **Options**.

Capturing Images

You must be in capture mode to capture images. To do this, click the **Capture Mode** button on the ASUS Main Panel.

NOTE: ASUS Live will automatically detect and warn you if the capture driver installed in your system is not compatible with ASUS Live.

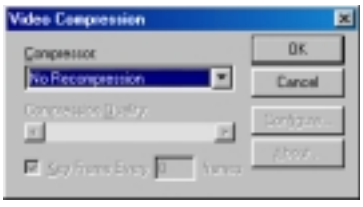
Video/Capture Setting

1. Click **Setup** and point to and then click **Capture Basic Setting** to adjust the basic video capture settings, such as **Capture Image Dimension and Format**, **Capture CODEC selection**, and **Capture Audio Format and Attribute**.

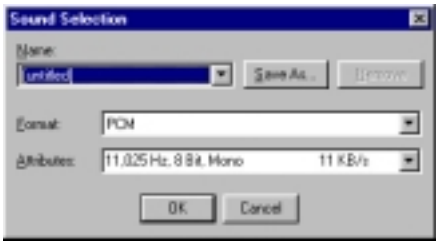
Under **Capture Image Dimension and Format**, select the **Image Dimensions**, **Image Format**, and **ASV2 Settings** of your choice.

NOTE: Windows 2000/NT 4.0 supports only the UYVY image format.

Under **Capture CODEC selection**, select the video compression of your choice for your captures.



Under **Capture Audio Format and Attribute**, select the audio **Format** and audio **Attributes** setting of your choice. This setting depends on whether you have audio set on your system.



Preallocate disk space: If you have limited space on your hard disk, you may want to limit the capture file size to a certain size. To do this, click **Preallocate disk space** and enter the desired maximum file size.

Don't ask before starting capture: This lets you start capture without the dialog box prompt.

Capture Tip: See **Enabling DMA Transfer Mode**

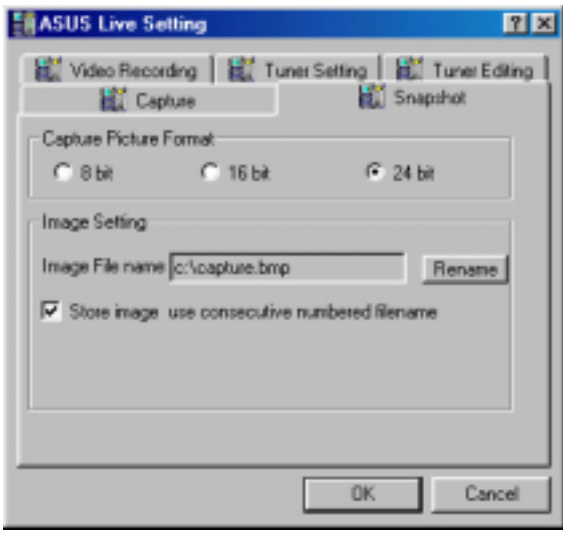
Adjust Source: This lets you select the video connection and video standard to use in the capture. It also lets you adjust the *Brightness*, *Contrast*, *Saturation*, and *Hue* of your images.

You are now ready to capture video images.

SnapShot Setting

1 Click **Setup** and point to and then click **Video SnapShot** to select your **Capture Picture Format** (*default*: 24 bit), **Image Setting** and other settings.

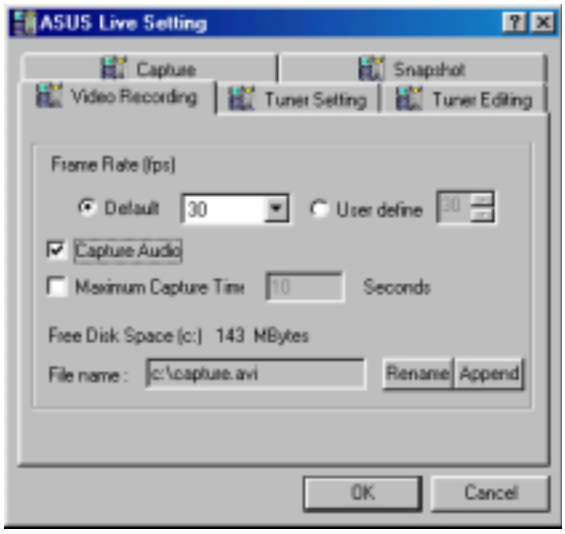
Under **Image Setting**, you may set the desired **Image File name** and path (*default*: C:\CAPTURE.BMP) and for the filename to be consecutively numbered (**Store image use consecutive numbered filename**).



You are now ready to capture video images.

Manual Video Recording Setting

1. Click **Setup** and point to and then click **Manual Recording** to select the video recording settings, such as the **Frame Rate (fps)** (*default*: 30), **Maximum Capture Time** (*default*: 10 *seconds*) and **File name** and path (*default*: C:\CAPTURE.AVI).

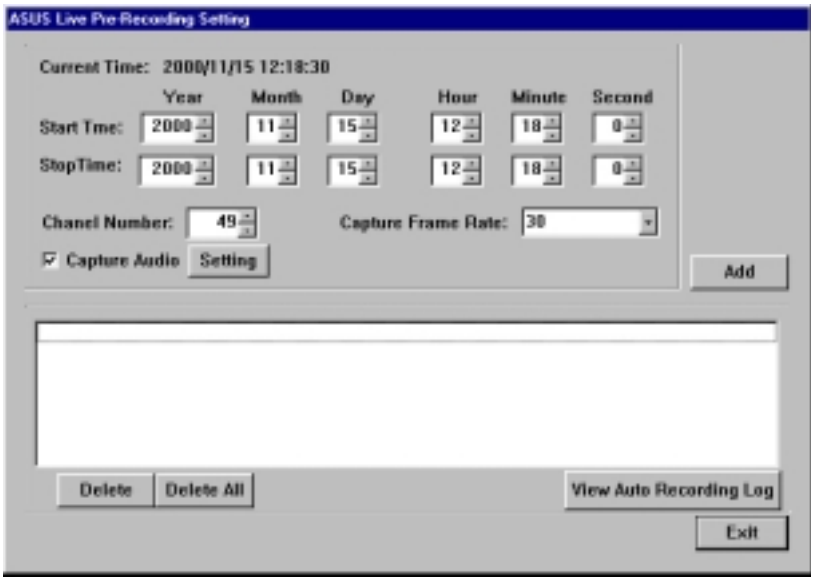


You are now ready to capture video images.

Scheduled Recording Setting (Windows 98/ME only)

NOTE: For Windows NT/2000, *refer* to **4. Software Reference | Auto Recording.**

1. Click **Setup** and point to and then click **Scheduled Recording** to select the live pre-recording settings.



These settings include the **Start Time** (Year | Month | Day | Hour | Minute | Second), **Stop Time** (Year | Month | Day | Hour | Minute | Second), **Channel Number**, **Capture Frame Rate,** and options to **Add Audio** to the recording, **View Auto Recording Log**, and to **Delete** one or **Delete All** the pre-recording settings.

2. Click **Add** to add your pre-recording setting/s.

   The video recording will start at the designated date and time.

NOTE: The video recording settings assume that you have a video device connected to your ASUS graphics card and that the device is turned on and running.

Snapshot

Snapshot (*hotkey:* F5) lets you capture video stream data as single images and then show these images on your desktop almost simultaneously through the default image viewer. It supports any plug-in picture viewer/image processing program to view the captured images (*see* **ASUS Live Control Panel** earlier in this section).

To begin capturing, do the following:

1. Click **Snapshot** on the ASUS Live Control Panel or press the F5 key to capture the desired image on ASUS Live Video's display screen.

   The screen will freeze momentarily and the captured image (saved as a BMP file, using consecutive numbers) will be previewed in the **Preview Files** window.

   You may click an image to view that captured image.

2. Repeat Step 1 as necessary.

Frame Recording

Frame Recording (*hotkey:* F6) lets you capture video stream data as consecutive images and then show these images on your desktop through your default movie player. **Frame Recording** is useful in animation.

To begin capturing, do the following:

1. Click **Frame Recording** on the ASUS Live Control Panel or press the F6 key to open the **Capture Frames** box.
2. Click **Capture** to begin capturing the desired frame or frames on ASUS Live Video's display screen and then click **Done** when the desired end frame is reached. The initial frame of the captured video (saved as an AVI file) will immediately be displayed on your movie player.

Video Recording

Video Recording (*hotkey:* F7) lets you capture video stream data continuously and then show these images on your desktop through your default movie player.

To begin capturing, do the following:

1. Click **Video Recording** on the ASUS Live Control Panel or press the F7 key.
2. Follow the on-screen instructions to begin and then stop video recording.

NOTES

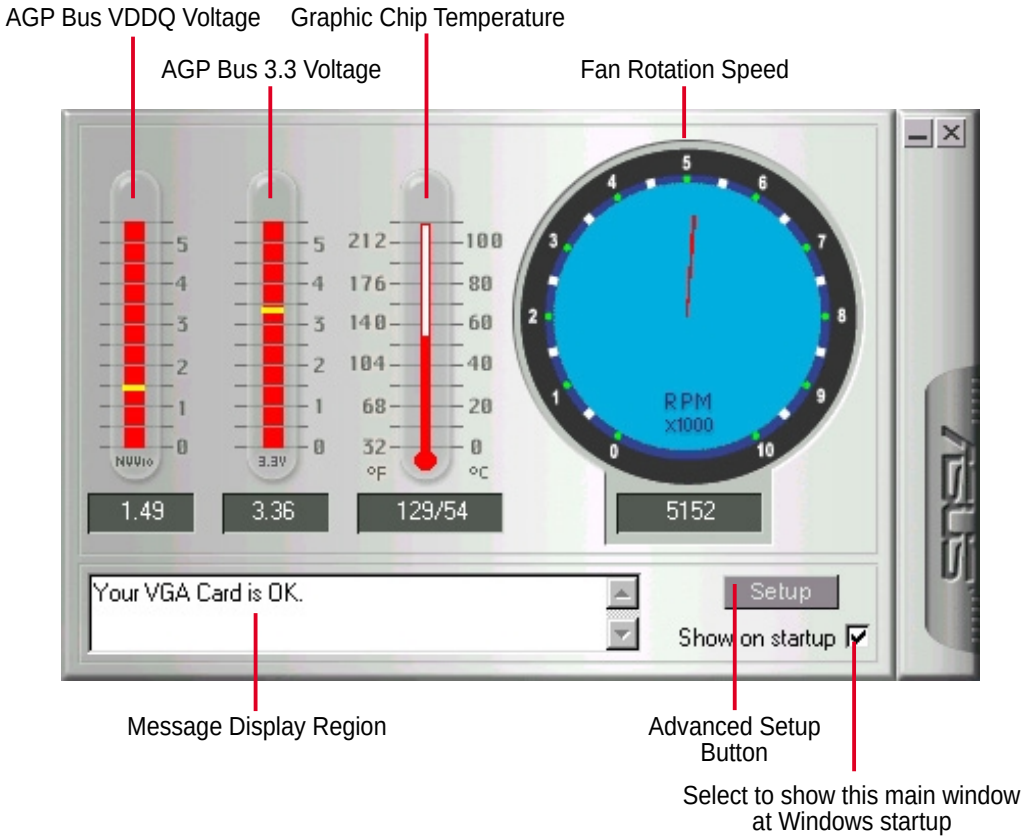
1. **Windows 2000/NT4.0:** The capture performance quality under Windows 2000/NT 4.0 is not as good as that under Windows 98.
2. **Windows NT 4.0:** To run ASUS Live Video, Windows NT 4.0 Service Pack 3 or later must be installed on your computer. You may download service packs at http://www.microsoft.com/ntworkstation/downloads.
3. **Windows 2000/NT 4.0:** To enhance capture performance, select **UYVY** as the capture format size and **ASUS ASV2** as capture CODEC.

ASUS SmartDoctor

ASUS SmartDoctor is designed to satisfy two major goals. One is to monitor the graphic chip status, alerting users about abnormal events, such as fan malfunction or chip overheat. The other, as the name “SmartDoctor” implies, is to “cool” down the graphic chip smartly when it is not necessary for it to be kept running at full speed.

Functions

- Monitors graphic chip temperature, fan speed and voltage
- Notifies users aboutY irregular hardware events, such as temperature overheat, fan malfunction, and out-of-safe-range voltage.
- Forcibly cools down the graphic chip when the graphic chip’s temperature is over an acceptable temperature, to protect the graphic chip from overheat damage.
- Cools down the graphic chip’s temperature when it is idle, and restores it to its maximum capability once needed, thus smartly extending the graphic chip’s lifetime.
- Cools down the CPU’s temperature (for Windows 98/98 Second Edition only) to lengthen CPU lifetime.



NOTE: AGP bus VDDQ Voltage and AGP bus 3.3 Voltage should be supplied steadily by your motherboard, otherwise, your system will crash.

Advanced Setup

When you click the **Setup** button, the **Advanced Setup** dialog box appears.

The default setting of SmartDoctor is **Run once and terminate**, which means that SmartDoctor will run every time Windows starts and checks the graphic card's status.

If your graphics card is working properly, SmartDoctor will just exit or terminate in 5 seconds.

If you want SmartDoctor to continue running in the background and to monitor your graphic card's status, select **Run and keep resident**.

Dynamic Settings will become available when you select **Run and keep resident**.

- **Monitoring polling time interval** lets you specify the time intervals that SmartDoctor will take to check the graphic chip. The default setting is 5 seconds. You can choose a longer time interval value. SmartDoctor, however, will be less sensitive to graphic chip condition changes.
- **Enable CPU cooling** allows you to enable or disable the CPU cooling option. Enabling CPU cooling option will cool down the CPU's temperature when SmartDoctor detects that CPU is idle. The CPU's temperature will then drop.

  NOTE: If you have already installed any CPU cooling software in your system, you should just choose only one. Running more than one CPU cooling software at the same time is redundant.

  After CPU cooling is enabled, and when you run **System Monitor** in *Programs–Accessories–System Tools* to monitor CPU usage, you will find that CPU usage has reached its maximum, that is, 100%. Do not be alarmed—this is normal.
- **Enable dynamic graphic cooling** allows you to enable or disable the dynamic graphic cooling option. Enabling the graphic cooling option will cool down the graphic chip's temperature when SmartDoctor detects that the graphic chip is idle.
- **Enable overheat protection** lets you forcibly cool down the graphic chip when temperature is over the tolerable range or value.

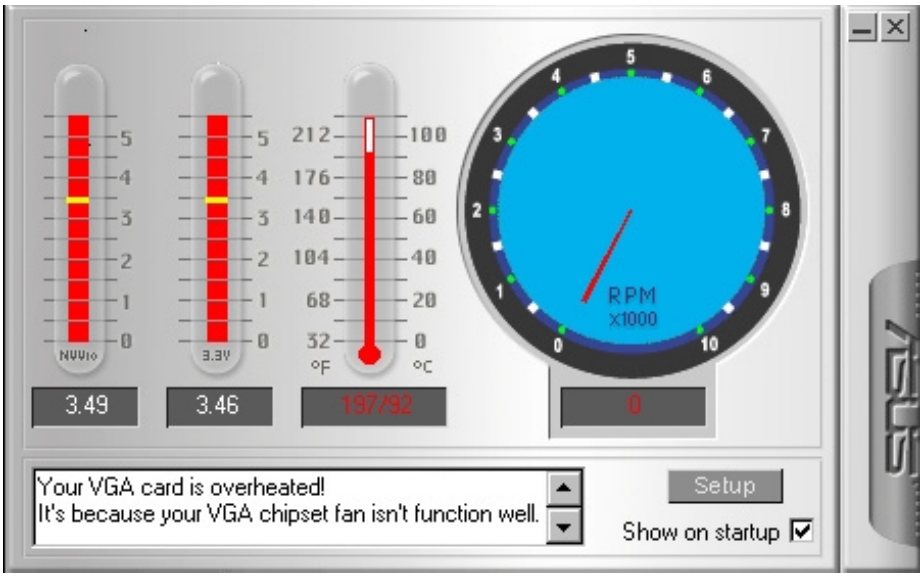
When you select **Run and keep resident** and then click **OK**, a dialog box appears to warn you of a possible graphic performance drop. This performance penalty is very slight and almost undetectable even under rigorous examination by benchmark programs.

Warning
Enable Dynamic Settings may slightely degrade VGA card's performance.
Press OK button to enable your settings, or Cancel to quit
OK
Cancel

Press **OK** to set your modifications or **Cancel** to retain the original settings

Abnormal Events

When SmartDoctor senses that something is wrong with your card's graphic chip, the message display region will display a detailed description of the error or trouble. The component in question will also have a flashing red value. If you enabled overheat protection in **Advanced Setup** dialog, SmartDoctor will cool down the graphic chip in time to protect it from possible overheat damage.



ASUS Digital VCR

NOTES

1. The following can only be used as a general reference and may not be an exact reflection of the software version you are using. The contents are subject to change at any time without notice.
2. ASUS Digital VCR can only be used with the TVR model (models with a Video Decoder) and monitors or monitor drivers that are designed for I2C bus control.
3. ASUS Digital VCR currently only supports Windows 9x/ME.

ASUS Digital VCR can be used to:

1. View images using your monitor as screen from traditional consumer devices, such as videocassette players, camcorders, digital cameras, and laser disc players through the onboard RCA or SVHS VIDEO-IN connectors.
2. Capture live motion video up to 30 frames/second (minimum system requirement: Pentium II/266). For TimeShifting™ recording at MPEG-II format (704x480, 30 frames/second), minimum system requirement is Pentium III/600 (recommended: Pentium III/700 or higher).

NOTE: You should already have installed DirectX 7 or later to use ASUS Digital VCR (*see* **3. Software Setup | Install DirectX**)

Running ASUS Digital VCR

To run the utility, click **Start** and point to **Programs** and then **ASUS Digital VCR** and then click **ASUS Digital VCR**.

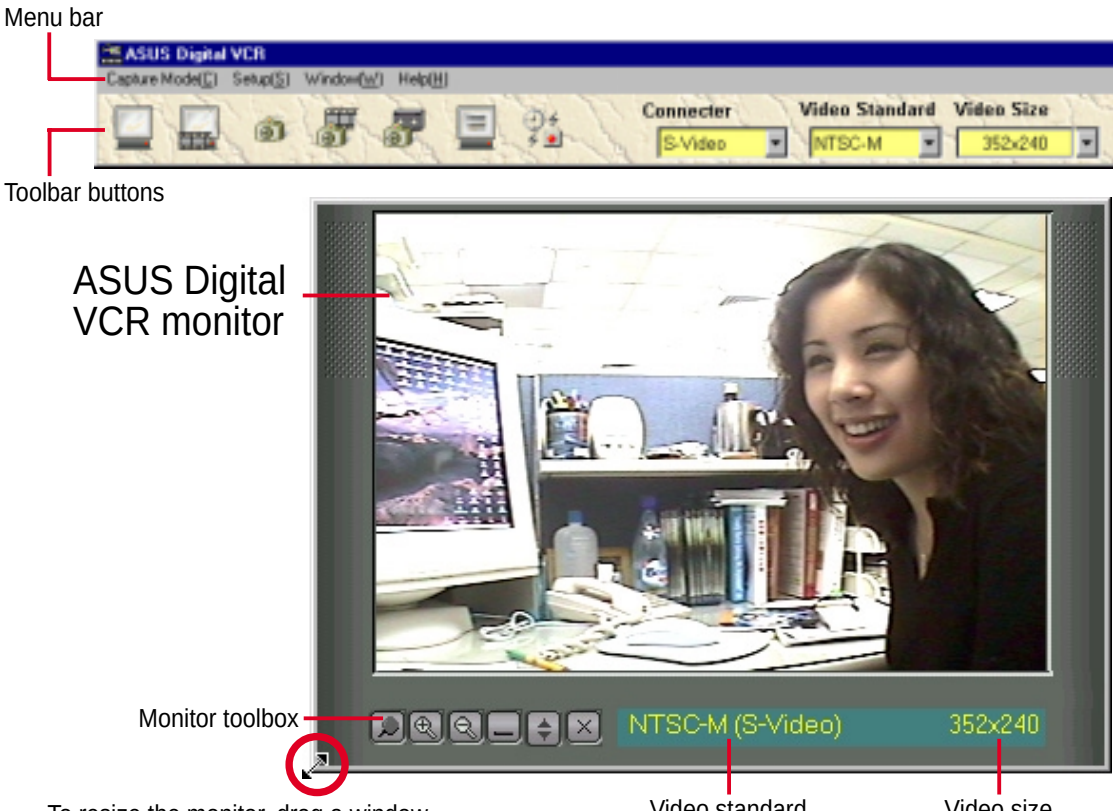
You may also run ASUS Digital VCR by clicking or right-clicking the ASUS Control Panel icon (*see* **4. Software Reference | ASUS Control Panel**) on the taskbar's status area to display the ASUS Control Panel, pointing to **ASUS Digital VCR**, and then clicking it.

Uninstalling ASUS Digital VCR

To uninstall the software, click **Start** and point to **Programs** and then **ASUS Digital VCR** and then click **Uninstall**. You may also uninstall the software using the **Add/Remove Programs Properties** dialog box at the **Windows Setup** tab. *See* Windows online help for more information on removing a Windows component.

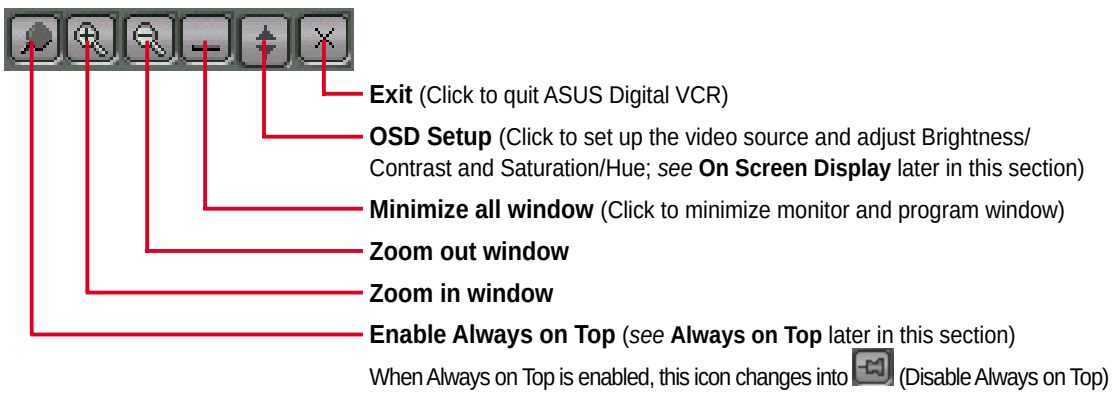
Using ASUS Digital VCR

ASUS Digital VCR has been designed as a standard Windows program. That is, functions can be accessed by means of the main menu bar or by clicking the toolbar buttons on the program window. It has three operational modes: **Live Mode**, **Capture Mode**, and **Playback Mode**.



NOTES: Users of PAL D/K models of the graphics card should select PAL-BGHI for the Video Standard.

Monitor Toolbox


Exit (Click to quit ASUS Digital VCR)
OSD Setup (Click to set up the video source and adjust Brightness/ Contrast and Saturation/Hue; *see* **On Screen Display** later in this section)
Minimize all window (Click to minimize monitor and program window)
Zoom out window
Zoom in window
Enable Always on Top (*see* **Always on Top** later in this section)
When Always on Top is enabled, this icon changes into (Disable Always on Top)

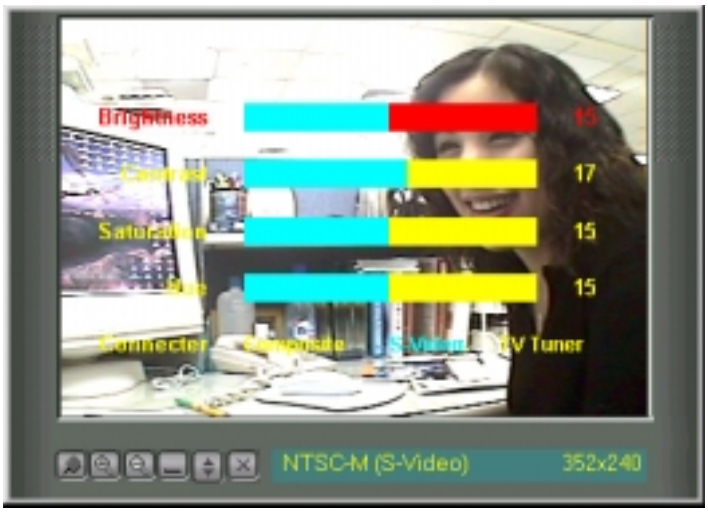
Enable Always on Top

The **Enable Always on Top** option is provided for users who may wish to continue watching VCD/DVD/TV programs or want to have the ASUS Digital VCR monitor visible while doing other tasks, such as when downloading files from the Internet or word processing. To keep the monitor always on top of other programs, click the **Enable Always on Top** button or select the **Always on Top On** command from the **Window(W)** menu. Position the monitor where it will not interfere with your other tasks.

To disable the Always on Top option, click or select the **Always on Top Off** command from the **Window(W)** menu.

OSD Setup

When first using ASUS Digital VCR, you must set up the video source. Use the **OSD Setup** button on the ASUS Digital VCR Control Panel to show or hide the video source setup screen on the monitor.



Use your mouse/pointing device or the UP and DOWN arrow keys on your keyboard to select options (*Brightness*, *Contrast*, *Saturation*, *Hue*, *Connector*) and then the LEFT (select to the left or to decrease) or RIGHT (select to the right or to increase) arrow keys to change an option. You may also use your mouse/pointing device to change an option by clicking the appropriate item or slider.

To set the settings back to its default, click (or use theF9 hot key or select **Video Source** on the **Setup(S)** menu) and then click **Reset Video** in the **Video Source** tab. Click **OK** to close the **Video Source** tab.

Live Mode

The default mode when you open ASUS Digital VCR is **Live Mode**, which lets you view live video. Under this mode, the VCR monitor can be resized (default size: 352x240) by dragging either of the four window corners (*see* preceding illustration on the ASUS Digital VCR monitor). Live video can also be viewed in full screen mode or set as desktop wallpaper.

To switch to Live Mode from Capture Mode, click or press F2.

Enable full screen display

To *Enable full screen display*, click or use CTRL+S.

To disable full screen display, double-click the display and then click . You may also use CTRL+S or ESC to disable full screen display. The display will then revert to its previous size.

Enable wallpaper display

NOTE: Before using the *Enable wallpaper display* option, make sure that the **View as Web Page** option of the Active Desktop setting is not selected (*see* **Start – Settings –Active Desktop – View as Web Page**).

To *Enable wallpaper display*, click or use CTRL+W.

To disable desktop wallpaper, double-click anywhere the display and then click . You may also use CTRL+W to disable the desktop wallpaper.

Video Source Setup

To set up *Video Source*, click .

Video Source lets you set the display video method, video scan option, video standard, brightness/contrast, saturation/hue and other options.

To use **Video Source**, click (or use theF9 hot key or select **Video Source** on the **Setup(S)** menu).

Display Video Method

Display Video Method lets you select ways to display video on your monitor: *BOB* (default) or *WEAVE*. These methods are simple ways of correcting interlaced display.ASUS Digital VCR by default will use the bob method for correcting interlaced display. If your video contains no motion, weave would be a best choice. For more information, visit www.microsoft.com/hwdev/devdes/vpe.htm#Interleaved.

Video Scan Option

Video Scan Option lets you select the scanning method to use: *Normal* (default), *Skip Odd Field*, and *Skip Even Field*. Use this option to reduce the strobing effect that results from fast moving objects when rendering to video. *Normal* uses both fields to render the video output. For PAL output, use *Skip Odd Field* and for NTSC output, use *Skip Even Field*.

Video Standard

Video Standard lets you select the video srandard to use for display: *NTSC-M* (default), *NTSC-N*, *NTSC-4.43*, P*AL-BGHI*, *PAL-M*, *PAL-N*, *PAL-4.43* or *SECAM*.

NOTE: Users of the PAL D/K models should select PAL-BGHI for the Video Standard.

If desired, you may adjust the Brightness, Contrast, Saturation, and Hue of the VCR monitor. Use your mouse/pointing device to make the necessary adjustments.

Click again the **Video Source Option (F9)** button on the ASUS Live Control Panel to exit from the video source option screen.

Use Hardware Pre-filtering function

Use Hardware Pre-Filtering function (default: disabled) lets you use your graphics card for pre-filtering (pre-smoothing the image before compression encoding).

Capture Mode

Capture Mode lets you capture and store images into your computer. It has three capture options: **Video Snapshot**, **Capture Frames**, and **Capture Video**. Video Recording adds an auto-timer recording function that allows you schedule your video recording (*see* **Auto Recording** later in this section).

To switch to Capture Mode from Live Mode, click or press F3.

Captured images are shown on the Preview Library. Double-click an image to play it back or view it with the associated image viewer or application (the path and file name of the selected image is shown below the image). You may also right-click an image or select an image and then click the appropriate button to **Playback** (or view), **Save As** (a new file), or **Delete** that image.

Setup

To set up *Video Capture*, click .

Video Capture

Video Capture lets you set the snapshot and video capture settings.

To use **Video Capture**, click (or use theF9 hot key or select **Capture Mode** on the **Setup(S)** menu).

4. Software Reference

IMPORTANT: It is the intent of ASUS that this product be used in full compliance with the copyright laws of your respective and other countries and that prior permission be obtained from copyright owners whenever necessary.

Windows 98

When you install the Windows 98 Driver of your ASUS graphics card (only models with the VIDEO-IN connector), the video capture driver will automatically be installed on your system. This video capture driver follows Microsoft Video for Windows standard and can open **up to a capture window size of 704 x 480**. It can be used with some applications that use video capture as an option, such as video conferencing, net meeting, or digital video authoring applications.

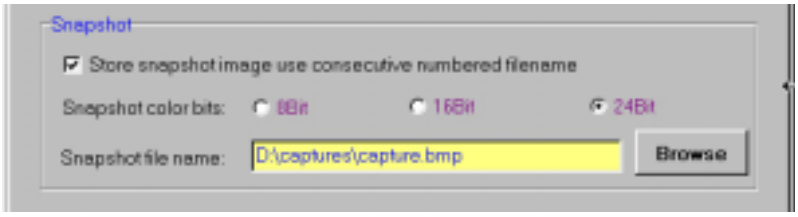
IMPORTANT: You must enable the DMA transfer mode of your hard disk (EIDE HD) to get the maximum data transfer capability (**704 x 480, 30 frames/second**) during the video capture process. Otherwise, your system may become unstable.

Setting Up for Capturing Images

You must be in capture mode to capture images. To do this, click on the ASUS Digital VCR toolbar.

NOTE: ASUS Digital VCR will automatically detect and warn you if the capture driver installed in your system is not compatible with ASUS Digital VCR.

SnapShot



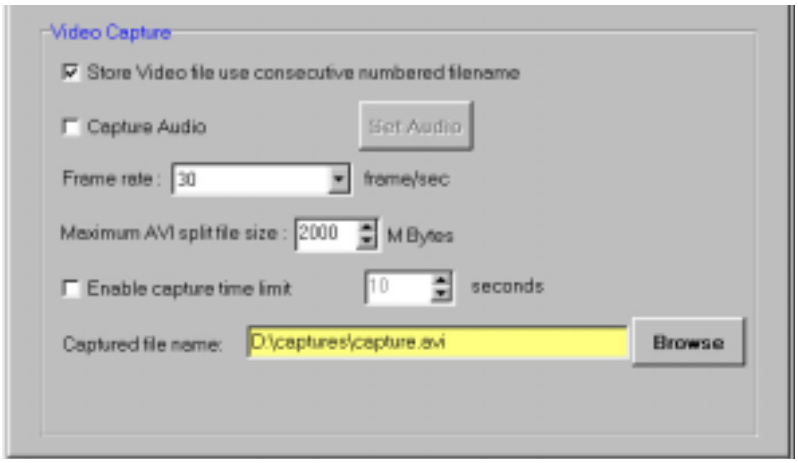
Store image use consecutive numbered filename: Select preferred file naming convention (*default:* selected)

Snapshot color bits: Select preferred color bits (*default:* 24Bit)

Snapshot file name: Type preferred path and file name (*default:* C:\CAPTURE.BMP).

You are now ready to capture video snapshots (F5).

Video Capture



Store Video file use consecutive numbered filename: Select preferred file naming convention (*default:* selected)

Capture Audio: Select if you prefer to include audio when capturing video (*default:* not selected). When selected, the **Set Audio** option becomes available.

Set Audio displays the **Sound Selection** dialog box, which lets you save a scheme for your audio setting or select from a list, select the audio format type and audio format attributes of the video to be captured.

(**PCM**, which means Pulse Coded Modulation or uncompressed audio data, is currently the only available selection)

Selecting a lower quality format, for example, ***,000 Hz, 8 Bit, Mono 11KB/s**, will make your video file size smaller while a higher quality format, for example, **44,100 Hz, 16 Bit, Stereo 172 KB/s**, can make the sound quality of your video file better, but your video file size will be larger.

Frame rate lets you select the preferred video data rate for the images to be captured (*default:* 30 frame/sec, which is full motion).

Maximum AVI split file size lets you set the maximum size for each video capture (*default:* 2000 M Bytes).

Enable capture time limit lets you limit the capture time (*default:* 10 seconds).

NOTE: Make sure that you have enough space on your hard disk drive. A 640x480 pixel video size, full-color (24-bit), full-motion (30 frames /sec) video capture requires about 27MB/sec (before compression).

Captured file name lets you set the path and file name of the images to be captured (*default:* C:\CAPTURE.AVI).

You are now ready to capture video images.

Auto Recording

Auto recording adds an auto-timer recording function that allows you to schedule your video recording.

To use **Auto recording**, click (or use theF9 hot key) and then click the **Auto recording** tab or simply click on the toolbar or select **Auto-Recording Setup** on the **Setup(S)** menu.

Auto recording includes the **Current time** (Hour:Minute:Second), **Start Time** (Year | Month | Day | Hour | Minute | Second), **End Time** (Year | Month | Day | Hour | Minute | Second), **Frame Rate**, **Channel**, and options to **Capture Audio** to the recording, **View Log** (of auto recorded events**)**, and to **Delete** one or **Delete All** the pre-recording settings.

Add lets you add while **Clear** lets you clear your pre-recording setting/s.

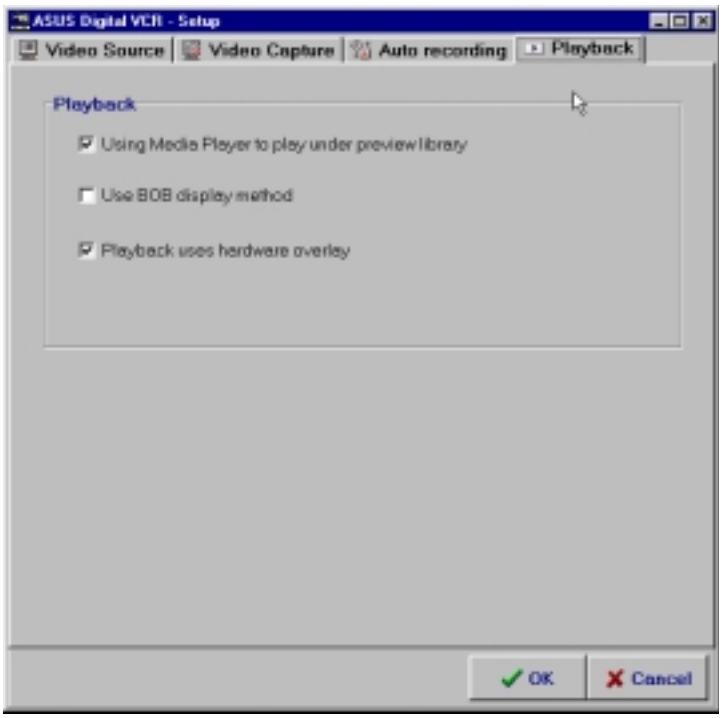
The video recording will start at the designated date and time.

NOTE: The video recording settings assume that you have a video device connected to your ASUS graphics card and that the device is turned on and running.

Playback

Playback lets you set the options when playing back video files.

To use **Playback**, click (or use theF9 hot key) and then click the **Playback** tab or simply select **Playback** on the **Setup(S)** menu.



Capturing Images

Video Snapshot F5

Video Snapshot (*hotkey:* F5) lets you capture video stream data as single images and then show these images on your desktop almost simultaneously through the default image viewer. It supports any plug-in picture viewer/image processing program to view the captured images.

To begin capturing, do the following:

1. Click on the ASUS Digital VCR toolbar or press the F5 key to capture the desired image from the ASUS Digital VCR monitor.

The screen will freeze momentarily and the captured image (saved as a BMP file, using consecutive numbers) will be previewed in the **Preview Library** window.

You may click an image to view that captured image.

2. Repeat Step 1 as necessary.

Capture Frames F6

Capture Frames (*hotkey:* F6) lets you capture video stream data as consecutive images and then show these images on your desktop through your default movie player. **Capture Frames** is useful in animation.

To begin capturing, do the following:

1. Click on the ASUS Digital VCR toolbar or press the F6 key to open the **Capture Frames** box.
2. Click **Capture** to begin capturing the desired frame or frames on ASUS Digital VCR monitor and then click **Stop** when the desired end frame is reached. The initial frame of the captured video (saved as an AVI file) will immediately be displayed on your movie player.

Capture Video F7

Capture Video (*hotkey:* F7) lets you capture video stream data continuously and then show these images on your desktop through your default movie player.

To begin capturing, do the following:

1. Click on the ASUS Digital VCR toolbar or press the F7 key.
2. The Video Capture Setup dialog box opens. Set the different options as desired and then click **Start**. Click **Stop** when the desired end frame is reached. The initial frame of the captured video (saved as an AVI file) will immediately be played back.

NOTE

1. With the new TimeShifting™ technology from ASUS, you can start playing back the captured video anytime (*see* **TimeShifting™** later in this section), even while recording!

TimeShifting™

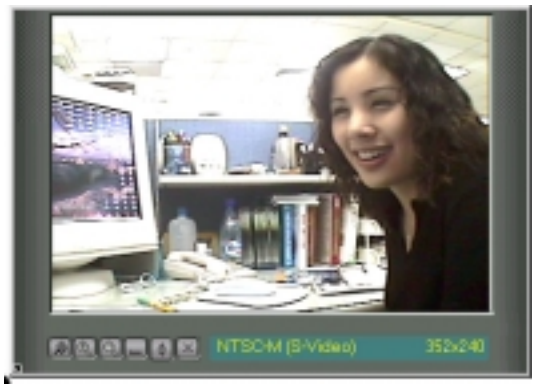
The innovative TimeShifting™ feature of the ASUS Digital VCR lets you record incoming video feeds into a buffer. So if you're watching your favorite TV show on your computer and you had to leave but you don't want to miss the rest of the show, all you need is to record it with ASUS TimeShifting™. When you come back, you don't have to wait (unlike traditional recorders) for the recording to finish to be able to watch what's been recorded. Just click **Play** and playback will start immediately (this while recording still continuing in the background)!

Playback Mode

Playback (*hotkey:* F4) lets you play back captured video stream data using ASUS Digital VCR.

To begin playback, do the following:

1. Click on the ASUS Digital VCR toolbar or press the F4 key.
2. The **Open** (video file) dialog box opens. Double-click the video file you want to open. You may need to locate the drive or folder that contains the file.
3. Playback immediately begins. A progress indicator will show the elapsed time.



Progress Indicator

NOTES

During playback,

1. You may apply some filters to create effects on your video. Simply click **Filters** to apply a filter to the video file.
2. You may apply **Fast Motion**, **Slow Motion**, and other effects. Simply select any of the effects on the **Play(P)** menu or click any of the buttons on the Playback toolbar.

Using the Other Utilities

ASUS TWAIN Interface

Windows 98 Only

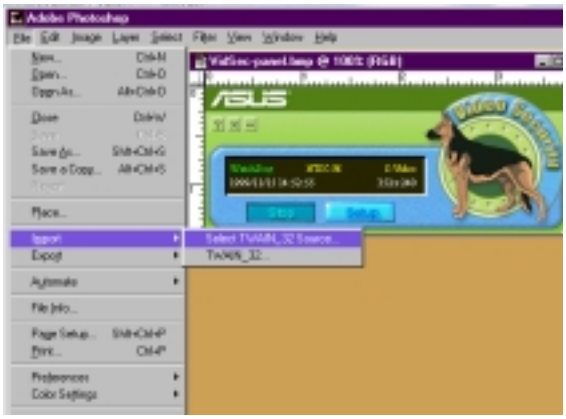
TWAIN is a cross-platform interface for acquiring images captured by scanners, digital cameras, and frame grabbers. The ASUS TWAIN Driver is currently supported only when used with Adobe Photoshop® (see www.adobe.com for details). If you already have Photoshop installed and you chose to install the ASUS TWAIN Driver, you can use Photoshop to import a still image using the ASUS TWAIN interface installed.

NOTE: The following steps assume that you are already running Photoshop and that you have already connected a compatible and working capture device, such as a web cam, to your system.

Using the ASUS TWAIN Interface for the First Time

1. From the **File** menu, click **Import** and then **Select TWAIN_32 Source** to specify the capture option.

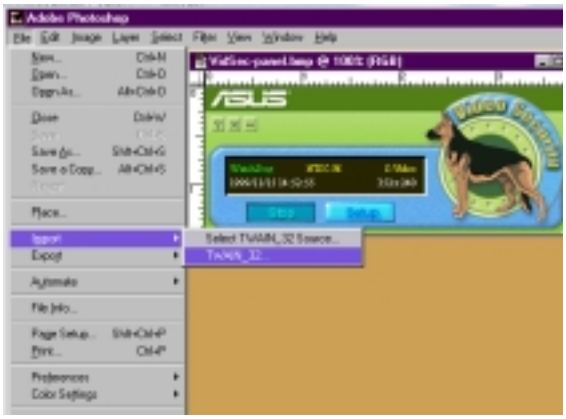
   Select **ASUS Frame Capture Source**.



NOTE: You do not need to repeat this step for subsequent uses of the ASUS TWAIN module. If more than one TWAIN device is installed in your system and you want to switch devices, use **Select TWAIN_32 Source** command.

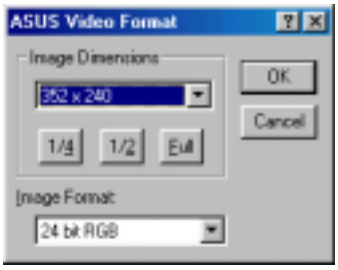
Importing an Image Using the ASUS TWAIN Interface

1. From the **File** menu, click **Import** and then **TWAIN_32**.



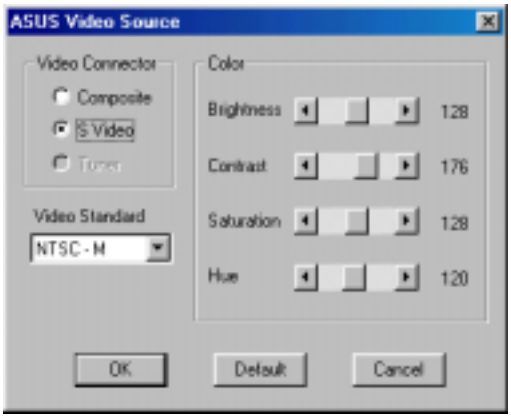
2. When the ASUS TWAIN Driver utility appears, click **Options** and then **Video Format**.

3. In the **Image Format** list of the **ASUS Video Format** dialog box, click **24 bit RGB**.



4. Click **Options** and then **Video Format** to select your video source. If desired or necessary, you may adjust the **Brightness**, **Contrast**, **Saturation**, and **Hue** of your image.

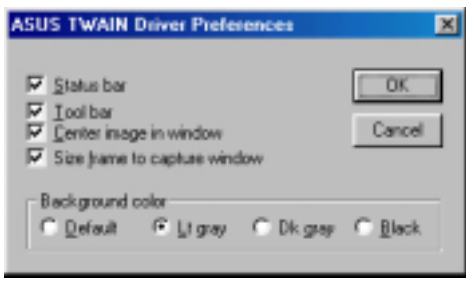
   You are now ready to capture.



5. To capture, click the capture button or click the **Capture menu** and then **Single Frame**.

Other Options

Preferences Menu: Click to adjust the background color of your image and other options.



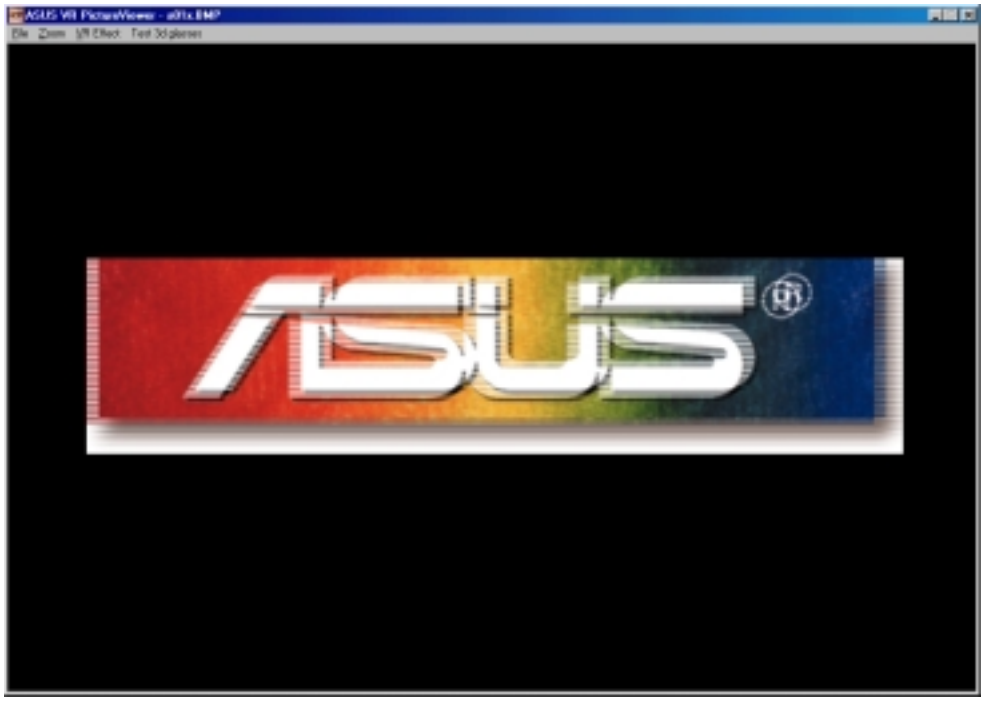
Toggle preview video: Click button or click the **Options** menu and then **Preview** to toggle between the preview video options. A pressed button (or a checked **Preview** command) indicates that the preview is on and vice-versa.

Toggle overlay video: Click button or click the **Options** menu and then **Overlay** to toggle between the overlay video options. A pressed button (or a checked **overlay** command) indicates that the overlay preview is on and vice-versa.

ASUS VR PictureViewer

Optional

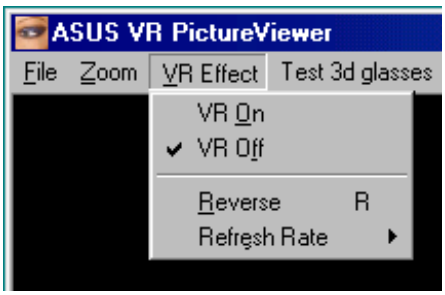
ASUS VR PictureViewer lets you view stereo images, size your stereo image, set the VR effect of your 3D glasses (ASUS VR-100G), and test your 3D glasses' functionality.



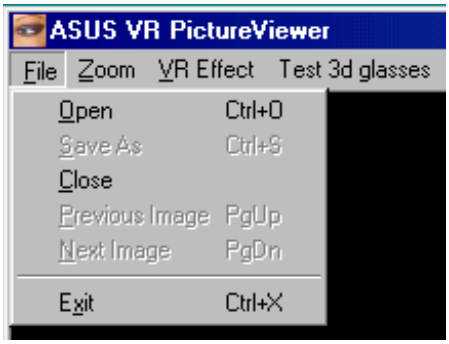
To run ASUS VR PictureViewer, click or right-click the ASUS Control Panel icon (*see* **4. Software Reference | ASUS Control Panel**) on the taskbar's status area to display the ASUS Control Panel, point to **VR PictureViewer**, and then click it.

Opening or Displaying a Stereoscopic or 3D File

1. Click the **VR Effect** menu and then click **VR On** to enable stereoscopic display.

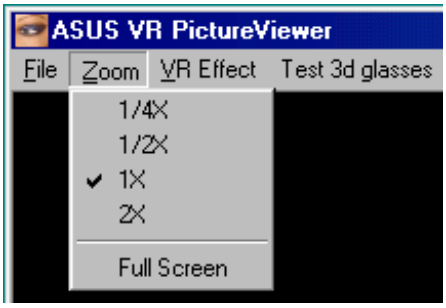


2. Click the **File** menu and then click **Open** to select a file. Select the file from the **Open** dialog box or select another folder and then click **Open**. The 3D image appears on the VrViewer main window (*see* preceding page for an opened 3D image file. Note that the 3D effect is not shown in this picture).



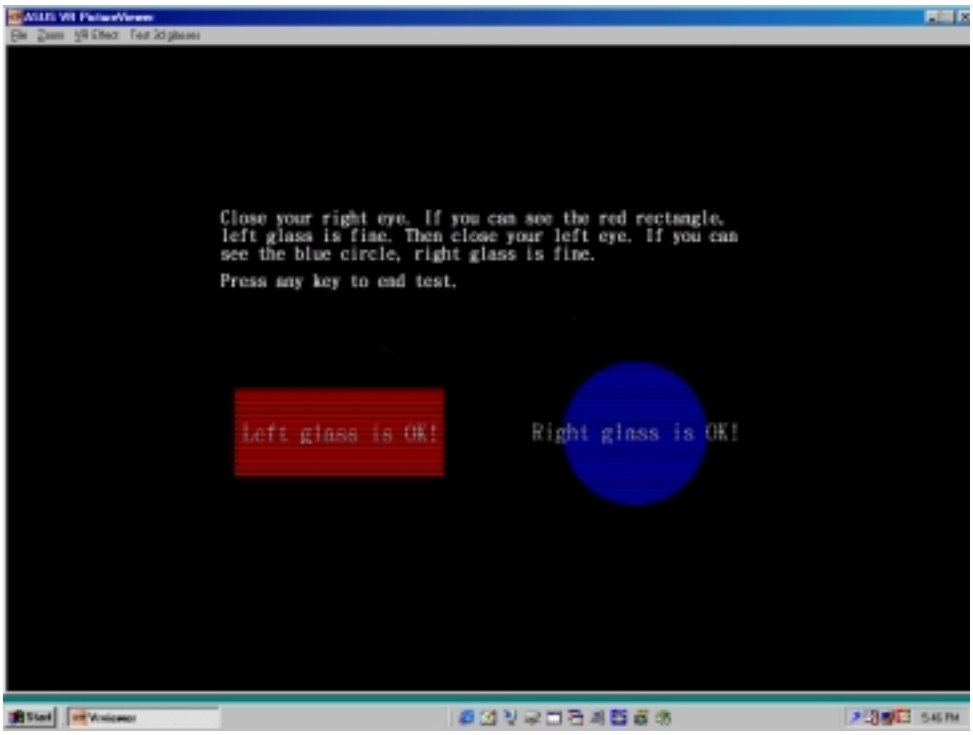
Changing the View

1. Click the **Zoom** menu and then click the desired zoom percentage.



Testing the 3D Glasses

1. Click the **Test 3D glasses** and then follow the onscreen instructions.


Close your right eye. If you can see the red rectangle, left glass is fine. Then close your left eye. If you can see the blue circle, right glass is fine.
Press any key to end test.
Left glass is OK!
Right glass is OK!

ASUS StereoTV

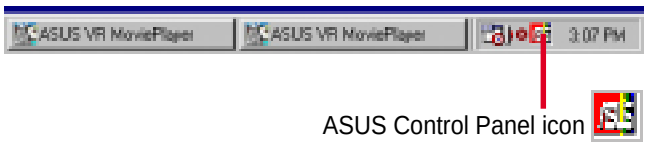
Optional
Windows 98 Only

NOTE: The ASUS StereoTV utility can only be used with the Deluxe Combo.

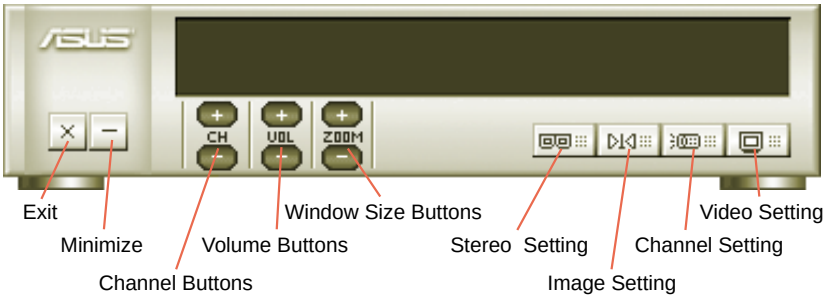
It can be used to view stereo video images with the optional 3D glasses (ASUS VR-100G) using your monitor or TV as screen from traditional consumer devices, such as videocassette players, camcorders, digital cameras, and laser disc players through the onboard RCA or SVHS VIDEO-IN connectors.

NOTE: You should already have installed DirectX 7 or higher to use ASUS StereoTV (*see* **3. Software Setup** | **Install DirectX**)

To run **StereoTV**, right-click the ASUS Control Panel icon on the taskbar's status area to display the ASUS Control Panel, point to **StereoTV**, and then click it.



ASUS VR MoviePlayer



Buttons and Functions

Channel Buttons
Clicking + selects the next higher channel while pressing − selects the next lower channel.

Volume Buttons
Clicking + increases the volume while pressing − decreases the volume.

Window Size Buttons
Clicking + increases the window size while pressing − decreases the window size.

Stereo Setting
Use this button to toggle between non-stereoscopic and stereoscopic mode.

Image Setting

Use this button to view correctly a stereoscopic image. For example, with a space inverted pseudoscopic spatial image, where the background appears in front and the foreground in the back. (**Hotkey:** R).

Channel Setting

Use this button to select an appropriate cable standard for your video system.

IMPORTANT! Be sure that the system and standard of the country where you will be installing your card is set appropriately. For example, you should have the NTSC model if you plan to use your card in countries with NTSC systems, PAL-BGHI model in countries with PAL-BGHI systems, or PAL-4.43 model in countries with PAL-4.43 systems.

Video Setting

Use this button to select the video format (**Options:** NTSC, PAL-BGHI, PAL-4.43) and video source (**Options:** Composite, Video).

Minimize Button

Clicking this button minimizes the ASUS VR MoviePlayer.

Exit Button

Clicking this button closes **StereoTV**.

5. Resolution Table

Maximum Refresh Rate

Resolution	Color Depth		
	8bpp = 256 colors Standard	16bpp = 65K colors High Color	32bpp = 16.7M colors True Color
640 x 480	240	240	240
800 x 600	240	240	240
1024 x 768	240	240	240
1152 x 864	200	200	170
1280 x 960	170	170	150
1280 x1204	170	170	170
1600 x 900	150	150	120
1600 x 1200	120	120	100
1920 x 1080	100	100	85
1920 x 1200	100	100	85
1920 x 1440	85	85	75
2048 x 1536	75	75	75

6. Troubleshooting

Description	Recommended Action
After installation and restarting, Windows 95/98 informs me that the display setting is still incorrect.	• Make sure the "Assign IRQ to VGA" option is enabled in the BIOS. • Check if there is enough IRQ for VGA. • Uninstall the driver, restart, and reinstall the driver.
My monitor is not capable of high resolution or refresh rate.	• It depends on the display characteristics of your monitor. Consult your monitor documentation for the proper configuration.
DirectX or the other applications report no AGP memory available.	• Windows 95 is not OSR2.1 or later. • DirectX version is not 6.0 or later. • You have not installed appropriate drivers for the AGP chipset. (e.g. VGARTD.VXD for Intel 440LX). • Incorrect BIOS setting. BIOS must support at least 64MB for AGP aperture size.
Games or applications report "No 3D acceleration hardware found."	• 3D works only in 16- or 32-bit color depth. Switch your color depth display mode to 16-bit (high color) or 32-bit (true color). • Check necessary libraries, such as DirectX or OpenGL. • Try to switch to a lower resolution.
I cannot enable AGP memory or run I-Base test.	• You may be using a motherboard with an Aladdin IV AGPset. To get the best compatibility, the display card uses AGP Bus Master mode instead of AGP execute mode for motherboards using this AGPset.
My MPEG player displays bad quality video clips.	• You must install DirectX 6 or later so that your player can take advantage of the hardware acceleration mode (DirectDraw). • Try to switch to a lower resolution, color depth, or refresh rate. Switching to a lower mode allows your player to use hardware acceleration mode. • Switch dual view mode to VGA or TV mode.
I can't use VideoSecurity with my USB CCD or IEEE 1394 CCD.	• VideoSecurity currently only supports S-Video or Composite CCDs. Any device used must be connected to an ASUS video card.
I am using Video Security and it seems my hard disk space is almost exhausted.	• This is a very important issue when you decide to use VideoSecurity with the "never stop" option. You must be aware of the free space of your hard disk—it must be enough for storing temporary files in the current working directory. If disk space is exhausted, VideoSecurity will not store any information and give you a warning message.

I am using VideoSecurity and I set the password option. I have forgotten my password, though. Is there a way to recover my password?

- The only way to remove password protection is to recall the original password that you assigned. The password protection is still active even when you uninstall VideoSecurity and install a new copy. Make sure that the password that you assigned can be easily remembered. You may write down your password and store it in a safe place.

(This page was intentionally left blank.)

INDEX

Symbols

15-pin VGA connector 21
16 / 32 bit color 113, 114
2D test 75
2X 64
3D antialiasing settings 64
4X 64

A

Abnormal events 92
Active color channel 59
Add 102
Add audio 88
Additional properties button 64
Adjust source 87
Adjust Z-buffer depth 65
Advanced 92
  Box 49, 52
  Button 55
  Menu 47, 55
  Setup 92
AGP bus expansion slot 21
Allow
  Applications 64
  Driver to select full screen 69
  Dual planes extension 67
Always on top 79, 83, 95
Analog monitor
  Connecting 21
Analog monitor submenu 56
  Display timing 56
  Screen adjustments 56
Application management 71
Aspect ratio 69
Asus
  Utilities 75
  VR movie player 111
  VR picture viewer 109
  VR-100 upgrade kit 20, 51
    Standard connection 20
    Y-Type connection 20
  VR-100G 3D glasses 20, 51, 109, 110
Auto
  -detect 56
  -panning 61
  -recording 98, 102
  -select 58, 67, 69
Automatically apply 59
Available models 7

B

Background 47, 50
Blind 47, 50
Brightness 45, 46, 50, 53, 58, 59, 108
Buffer flipping mode 67

C

Capture
  Audio format 86, 100, 102
  Basic setting 86
  CODEC 86, 89
  Frames 89, 98, 104
  Image dimension 86
  Menu 108
  Mode 82, 84, 94, 98
  Video 98, 104
Captured file name 101
Capturing images 86, 103
CCD 77, 114
Centered output 57
Change
  Default hot keys 49, 52
  Format 58
  TV format 58
Changing the view 110
Channel
  Buttons 111
  Number 88, 102
  Setting 112
Chip temperature 90
Clone mode 61, 63
  Detect displays 61
  Device settings 61
  Disable auto-panning 61
  Display 61
  Force detection of a monitor 61
Color
  Depth 113
  Menu 45
  Spline 46
Color correction submenu 59
  Active color channel 59
  Automatically apply 59
  Brightness / contrast / gamma 59
  Custom color settings 59
Contrast 45, 46, 50, 53, 58, 59, 68, 108

Control panel 43, 55
More resolution 44
Refresh rate / resolution 43
Current time 102
Custom color settings 59
Custom OpenGL settings 67

D

D3D/OSD histogram 50
Default color depth 67
Define tracing procedure 78
Delay before switching 73
Delete 88, 102
Delete image 98
Deluxe TVR models 51
Depth 47, 50
Desktop display manager 71
Application management 71
Displaying from any program 72
Global settings 72
Hot keys 72
Setting up 71
Zoom 73
Delay before switching 73
Enable zoom 73
Hotkeys 73
Update frequency 73
Desktop utilities 70
Display quick tweak icon 70
Using quick tweak icon 70
Detect displays 61
Detecting region 79
Device adjustments 58
Brightness / flicker filter / contrast 58
Screen positioning 58
Device selection status 56
Device settings submenu 55, 61
Color correction 59
Device adjustments
Analog monitor 56
Device selection status
Analog monitor 57
Digital flat panel 57
Digital flat panel
Centered output 57
Digital VCR 93
Always on top 95
Capture mode 94, 98
Auto recording 102
Capture frames 104
Capture Video 104
Capturing images 103
Setup 98
Snapshot 100
Video capture 100
Full screen display 96
Live mode 94, 96
Monitor toolbox 94
OSD setup 95
Playback 94, 103, 106
Running 93
TimeShifting 105
Uninstalling 93
Using 94
Video source setup 96
Display video method 97
Video scan option 97
Video standard 97
Wallpaper display 96
Digital vibrance 59
Direct3D menu 45, 50, 64
General functions 46
VR Effect 47
Direct3D settings 65
Mipmapping 65
Custom 3D settings 65
Detail level 65
PCI texture memory size 65
More direct3D
Texel alignment 66
Performance and compatibility 65
Adjust z-buffer 65
Display logo 65
Enable alternate depth 65
Enable fog table 65
Direction 47, 50
DirectX 114
Disable
Always on top 95
Antialiasing 64
Auto-panning on clone device 61
Clone mode 61
Desktop wallpaper 96
Extended desktop mode 60
Full screen display 96
Monitor check 48, 51, 67
Support for enhanced CPU 67
Discrete monitor timing 56
Display 61, 63

Logo 65
Quick tweak icon 70
Stereoscopic / 3D file 109
Video method 97
Display driver installation 23
Windows 2000 25
Windows 98 23
Windows NT 4.0 28
Display properties 43, 54, 55, 60, 70
Advanced settings 55
Clone mode - Win98/ME 61
GeForce2MX 64
TwinView - Win2000 63
TwinView - Win98/ME 60
Display timing 56
Auto-detect 56
Discrete monitor timings 56
General timing formula 56
Don't ask 87
Drivers 29
ASUS TWAIN driver 35
DirectX 30
Display driver 29
GART driver 31
Video for Win Capture / 2000-NT4 34
WDM capture driver 33
DVD playback quality 68
Dynamic
Graphic cooling 91
Settings 91

E

E line 50
Embossment 47, 50, 51, 53
Enable
Alternate depth buffering 65
Always on top 95
Anisotropic filtering 67
Buffer region extension 67
Clone mode 61
CPU cooling 91
Desktop manager 70
DMA transfer mode 85
Dynamic graphic cooling 91
Extended desktop mode 60
Fog table 65
Full screen display 96
OSD 49, 52
Overheat protection 91
Stereoscopic mode 47
Video mirror zoom 69
Video overlay zoom 68
Wallpaper display 96
Zoom feature 73
End time 102
Engine 75
Error processing 78
Exit button 112
Extended desktop mode 60, 70
Eyes 51, 53

F

Fast motion 106
Features 8
File name 87
Flicker filter 58
Force detection 61, 63
Foreground 47, 50
Frame
Capture source 107
Rate 87, 101, 102
Recording 89
Full screen device 69

G

Gamma 45, 46, 50, 53, 59
GeForce2MX 64
3D antialiasing settings 64
Additional properties 64
Desktop utilities 70
Direct3d settings 65
Display manager 71
OpenGL settings 67
Overlay / video mirror 69
Overlay controls 68
Allow applications 64
Manually select antialiasing 64
General functions
Color spline 46
Scheme 46
General timing formula 56
Global settings 72
Graphics speed 75

H

Histograms 50
Horizontal span mode 63

Hotkey 49, 52, 72, 73
Hue 68, 108

I

IC chips
  Warning 21
IEEE 1394 114
Image
  Filename 87
  Format 108
  Setting 87
Image setting 112
Import 107
IMPORTANT
    22, 46, 49, 52, 79, 99, 112
Information menu 44
Install
  Asus Digital VCR 42
  Asus Live utility 41
  Asus TWAIN driver 35, 107
  Asus Tweak utility 38
  Asus V7100 series display driver 21
  DirectX 23, 30, 93, 111
  Display driver 29
  GART driver 23, 31
  SmartDoctor 39
  Video for Win Capture / 2000-NT4 34
  VideoSecurity 40
  WDM capture driver 33
  Windows 98 AGP video-in 99
Installation procedures
  New VGA cards 21
  Systems with existing VGA card 21
IRQ 114
Irregular hardware events 90
Item checklist 14

L

Layout 9
  PCI-V7100 / Pure 19
  PCI-V7100 Pro / T 18
  V7100 Pro / Pure 10
  V7100 / 2V1D 14
  V7100 / DVI 15
  V7100 / Pure 17
  V7100 / T 16
  V7100 Deluxe Combo 11
  V7100 Magic / Pure 13
  V7100 Magic / T 12
  V7100 Pro / T 9
Limitations 77
Line interleave 48, 51
Live mode 94, 96
Live Video 81
  Capturing images 86
    Frame recording 89
    Manual video recording setting 87
    SnapShot setting 87, 88
    Video recording 89
    Video/capture settings 86
  Control panel 82
    Always on top 83
    Capture mode 82
    Live mode 82
    Video source option 83
  Modes 84
    Capture mode 84
    Live mode 84
  Running 81
  Setup
    Scheduled recording setting 88
  Uninstalling 81
Load default 47, 75

M

Main program 48
Make this primary display 63
Manual video recording 87
Manually select antialiasing 64
Maximum
  AVI 101
  Capture time 87
  Refresh rates 113
  Resolution 57
  Speed performance 64
Memory 75
Minimize button 112
Minimum
  System requirement 93
Mipmapping 65
  Custom Direct3D settings 65
  Detail level 65
  PCI texture memory size 65
Mode 48, 51
  Disable monitor check 48, 51
  Line interleave 48, 51
  Page flipping 48, 51

Refresh rate 48, 51
Stereoscopic 47
Monitor
1 & 2 60, 61
Always on top 95
Analog 56
Check, disable 48, 51
Compatibility 48
Delay before switching zoom 73
Discrete timings 56
Drivers 12C bus control 93
Force detection 63
IC 39
More resolution 44
Move the active window 72
Polling time 91
Primary > secondary 63
Refresh rates 52
Secondary 60
Toolbox 94
VCR 96
VGA adapter 14
More direct3D 66
More resolution 44
MPEG player 114

N

NTSC-M 58, 82, 83, 97, 112
NVIDIA icon 55

O

Off 64, 67, 95
On screen display 49, 52
Advanced 49, 52
Change defaults 49
Enable OSD 49, 52
Hotkey 49, 52
Setup 95
OpenGL menu 45, 53, 64
General functions 46
VR effect 51
OpenGL settings 67
Buffer flipping mode 67
Custom openGL settings 67
Default color depth 67
Performance and compatibility 67
Allow dual planes 67
Disble support for enhanced CPU 67
Enable anistropic filtering 67
Enable buffer 67
Use fast linear-mipmap 67
Use up to xMB 67
Vertical sync 67
OS
System requirements 22
Overheat protection 91, 92
Overlay 108
Overlay controls 68
Brightness / contrast / hue / saturation 68
Check here 68
Enable video overlay zoom 68
Select screen region 68
Video mirror controls 69
Zoom control 68

P

Page flipping 48, 51
PAL 58, 82, 83, 94, 97, 112
Picture format 87
Playback 94, 98, 103, 106
Preallocate diskspace 87
Preview files 88
Product highlights 7

Q

Quick
Tweak icon 70

R

Range 46, 66, 68
RCA 81, 93, 111
Refresh rate 43, 48, 51, 52, 113, 114
Reset video 95
Resolution
Refresh rate 43, 113
Win 95 users 44
RGB 45, 59, 108
Run and keep resident 91
Running
Digital VCR 93
LiveVideo 81
VideoSecurity 80
Running style 79

S

S-Video 58, 114
Safe mode recovery
  Tweak 76
Saturation 68, 95, 108
Save As
  Capture mode 98
Scheduled recording 88
Scheme 46, 48, 52, 101
Screen adjustments 56
Screen positioning 58
SECAM 82, 83, 97
Sensibility 78
Set audio display 101
Shortcut keys 80
Single frame 108
  Capture 75
Slow motion 106
SmartDoctor 90
  Abnormal events 92
  Advanced setup 91
  Functions 90
SnapShot setting 87, 88, 100
Software
  Installation procedures 21
Sound selection 101
Standard 63
Start time 88, 102
Stereo setting 111
Stereo TV 111
  VR movie player 111
    Buttons and functions 111
Stereoscopic / 3D file 109
Stereoscopic mode 47, 49, 51
Stop detecting setting 78
Stop time 88
Store
  Image 100
  Original settings 43
  Video file 100
SVHS video-in 81, 93, 111
System monitor 91
System requirements
  Monitor refresh rates 49
  OS 22

T

Taskbar 43, 54
  ASUS icon 43
  NVIDIA icon 70
  VideoSecurity icon 79
Testing 3D glasses 110
Texel alignment 66
TimeShifting 104, 105
Timing adjustment 75, 76
Tips!
  For enabling monitor 2 61
  For VR 48
  What's this? 55
Toggle
  Overlay video 108
  Preview video 108
Track overlay zoom 69
Troubleshooting 114
TV 58
  Change format 58
  Device adjustments
    Brightness / flicker filter / contrast 58
  Tuner problems 68
  Video output format 58
TVR model 93
TWAIN interface 107
  Importing an image 107
  Other options 108
  Using 107
Tweak utility 75
  Graphics speed 75
    2D test 75
    Engine 75
    Load default 75
    Memory 75
  Safe mode recovery 76
  Timing adjustment 75
  Use tweak settings 75
TwinView - Win2000 63
  Clone mode 63
  Display 63
  Force detection 63
  Horizontal span mode 63
  Make this the primary display 63
  Standard 63
  Vertical span mode 63
TwinView - Win98/ME 60
  Disable extended desktop 60
  Extended desktop mode 60
  Tab changes 62
TwinView tab 55

Typical
D3D OSD settings 50
OpenGL OSD settings 53

U

Uninstall
Digital VCR 93
Display driver 30, 36
Windows 2000 37
Windows 98 36
Windows NT 4.0 37
Driver 36
LiveVideo 81
VideoSecurity 115
Use
Asus utilities 75
Block transfer 67
Desktop color depth 67
Display adapter scaling 57
Embossment 48
Fast linear-mipmap 67
Hardware pre-filtering 97
Tweak settings 75
Up to X MB 67
Viewport lock 61
Utilities
Desktop 70
Digital VCR 42, 93
Live 41, 81
SmartDoctor 39, 90
Stereo TV 111
TWAIN interface 107
Tweak 38, 75
VideoSecurity 40, 77
VR Picture Viewer 109
Utility
Taskbar 54

V

Vertical span mode 63
Vertical sync 67
VGA monitor output adapter 14
Video
Format 108
Output format 58
Recording 89
Scan option 97
Setting 112
Snapshot 98, 103
Source option 83, 95, 96
Standard 97
Video capture 85, 86, 98, 100
Capturing images 86
Enabling DMA transfer mode 85
Win 98 / Win2000-NT 4.0 85
Video mirror controls 69
Allow driver 69
Aspect ratio 69
Enable video mirror zoom 69
Full screen device 69
Track overlay zoom 69
Video-in/TV-out 51, 77
VideoSecurity 77
Define tracing procedure 78
Detecting region 79
Error processing 78
Limitations 77
Main window 79
Running 80
Sensibility 78
Setup wizard 77
Shortcut keys 80
Stop detecting 78
Working directory 79
View
Angle 51, 53
Auto recording log 88
Log 102
Viewport lock 61
Voltage monitoring 90
Volume buttons 111
VR effect 47
Background 47
Blind 47
Depth 47
Embossment 47
Foreground 47
Load default 47
Main Program 48
Menu 109
Stereoscopic mode 47
VR movie player 111
VR picture viewer 109
Changing the view 110
Opening or displaying Stereo/3D files 109
Testing the 3d glasses 110
VR-100 upgrade kit 20, 51
Standard connection 20

Y-Type connection 20
VR-100G 3-D glasses 20, 51, 109, 110

W

WARNING
6, 21, 28, 30, 38, 43, 48, 52, 56, 75
Window size buttons 111
Windows desktop 43
Properties and settings 43
Windows display properties 55
Working directory 79

Z

Z-axis range 50
Zoom control 68, 73